

METROPOLITAN PROVIDENCE BICYCLE FACILITIES SITE ASSESSMENT PROJECT

EAST BAY BIKE PATH COLT STATE PARK SPUR

Bristol, RI



**FINAL REPORT
July 12, 2004**

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OVERVIEW

Introduction

RIDOT has retained Pare Engineering Corporation (PARE) to study and develop the creation of an approximate ½ mile connector link from the East Bay Bike Path to the Colt State Park Bike Path located in Bristol, Rhode Island. This link would provide East Bay Bike Path bicyclist's access to Colt State Park and its restrooms, drinking water, and telephone. The proposed path would be designed as either an off-road as a Shared Use Path facility, similar to the Colt State Park Bike Path and the East Bay Bike Path or as a shared roadway path or as a shared roadway path along Asylum Road.

The resurfacing of the approximate three-mile Colt State Park Bike Path, which was built in the 1970s, also is included in this project. The section of the Colt State Park Bike Path that runs along the waterfront was built after the original path and does not require resurfacing at this time. Upgrading and spot improvements at specific problem areas along the original path were field noted and are presented in the report.

The Rhode Island Public Transportation Authority (RIPTA) has a bus stop on the northwest corner of the intersection of Hope Street (Route 114) and Asylum Road. To allow and encourage bicyclists who use the bus to access the East Bay Bike Path and Colt State Park facilities, the Rhode Island Department of Environmental Management (DEM) requested that a connection from the intersection of Hope Street (Route 114) with Asylum Road to the East Bay Bike Path also be evaluated.

The total limits of the proposed bikeways and improvements to the Colt State Park Bike Path are shown on Figure 1, the Overall Site Plan. To further highlight details of the existing conditions and alternative routes for the proposed Shared Use Path, the project has been divided into four segment sections as shown on Figure 2, the Segment Location Plan. The alternatives, depicting various bikeway design possibilities within each segment route, have been labeled alphabetically and are shown on Figures 5 through 14, the individual Alternative, Segment Plans.



The following text is organized according to the area covered by each of the four segments. The limits for the segments were based on logical beginning and termini points and are discussed in detail in the description section of each segment of the report. Each alternative within a segment is discussed, evaluating the existing segment's conditions as it relates to the constraints and complications associated with bikeway design criteria. In conjunction with existing conditions, other pertinent criteria such as intersections within the park, and access to parking lots, recreational fields, rest rooms, and other facilities were examined with the bicyclist's needs in mind to determine the most appropriate bikeway design alternative. Crosswalks, bikeway and destination signing, and pavement marking treatments are proposed at locations as shown on the plans and detailed in the discussion of each alternative. *"The American Association of State Highway and Transportation Officials - Guide for the Development of Bicycle Facilities"* (AASHTO), 1999 edition, and the *"Manual of Uniform Traffic Control Devices"* (MUTCD), Millennium Edition, Part 9, Traffic Controls for Bicycle Facilities, were consulted when proposing appropriate signs and markings for the bikeway facilities within this project.

Also considered in this report are the conclusions that were made in regards to the *"2002 Bicycle Transportation User Survey; Developing Intermodal Connections to the 21st Century"*. The Rhode Island Department of Transportation (RIDOT), in conjunction with the University of Rhode Island Transportation Center (URITC), has developed and provided a comprehensive survey to the community. The received and compiled questionnaire responses provides valuable statistical information relative to the future planning of the statewide bicycle program, indicating key insights into the factors that encourage and/or discourage bicycle use as an alternative travel mode in Rhode Island. The survey data information gathered under this research project also provides a useful tool in justifying the continued future expansion of a transportation infrastructure that truly accommodates a multi-modal system. Analysis obtained from this research helps establish a baseline for future RIDOT bicycle project planning and design. Transportation planners and engineers will have accurate, readily available commuting and recreational related findings as a result of this project. Additional information pertaining to this project is available on the URITC's website, www.uritc.uri.edu/research.

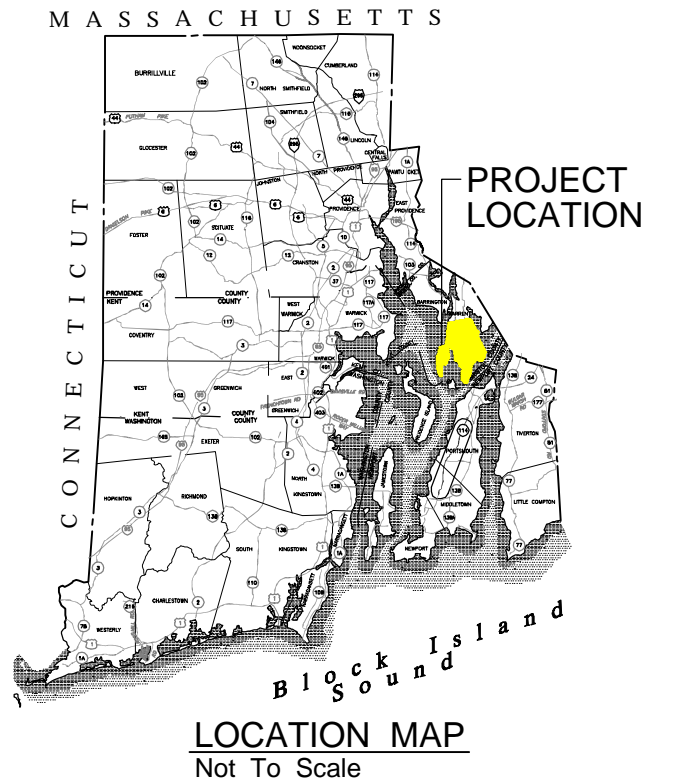
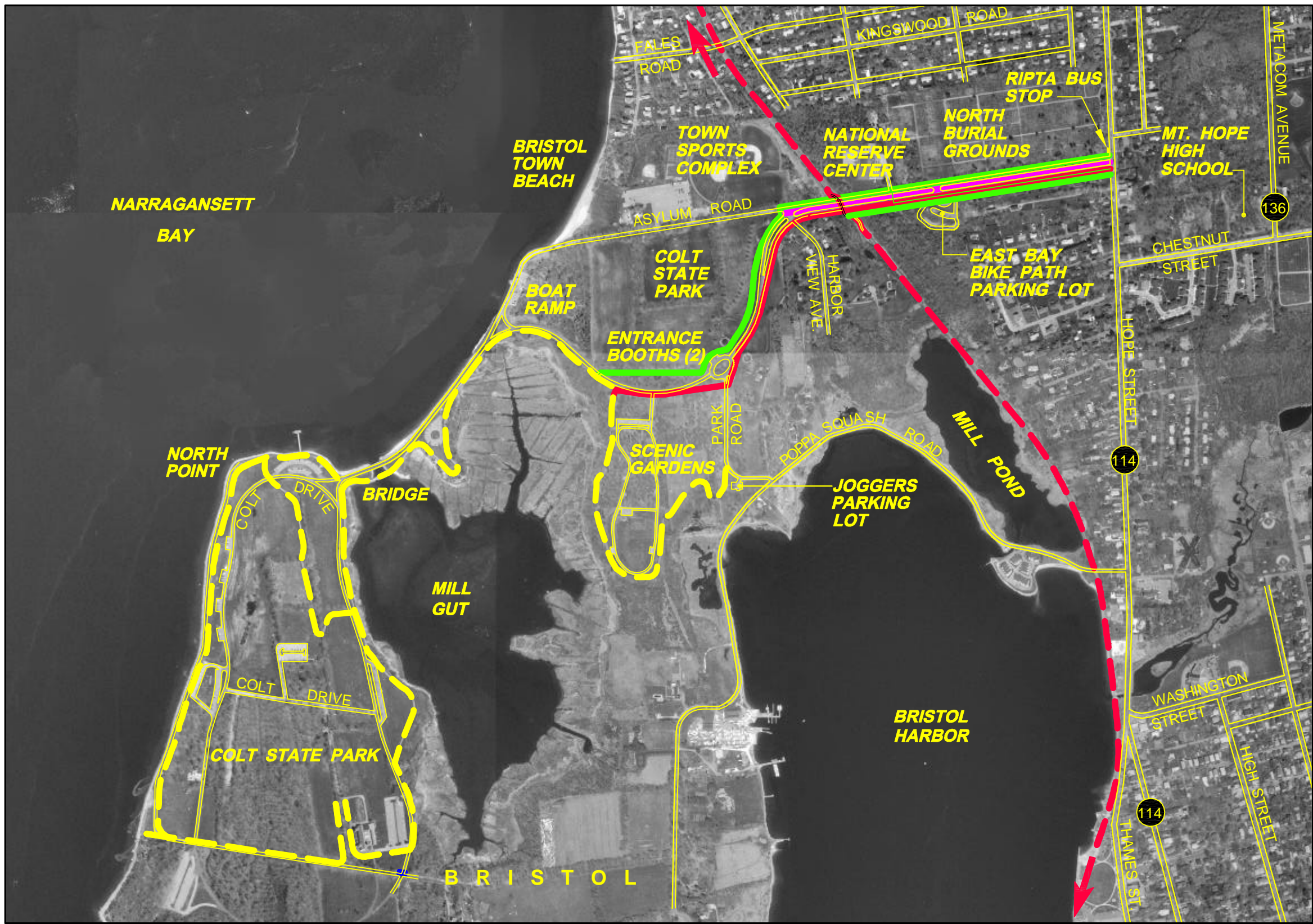
The final recommended Shared Use Path from Hope Street to the Colt State Park Bike Path was made based on the feasibility of each alternative within each segment. The chosen alternatives were combined to create the final recommended path. The recommended Shared Use Path is discussed in












the Recommendations section of this report and is shown on Figure 16, the Recommended Spur Layout Plan. The construction quantity estimate is based on the construction of a 10-foot wide, bituminous paved surface path. The Opinion Of Probable Cost for the recommended path and the resurfacing and striping of the parking lot, listed according to each segment and chosen alternative, is provided in Appendix B.

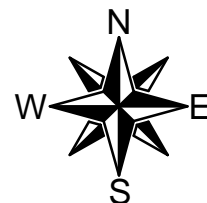
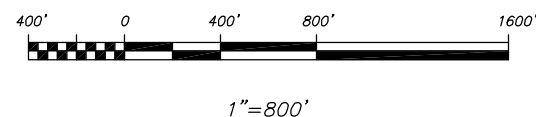
The recommended improvements to the Colt State Park Bike Path is discussed in The Colt State Park Bike Path Recommended Improvements section of this report and is shown on Figure 17, the Colt State Park Improvements Plan. The Opinion Of Probable Cost for the resurfacing, upgrading, and construction of the Colt State Park Bike Path is provided in the Appendix C.





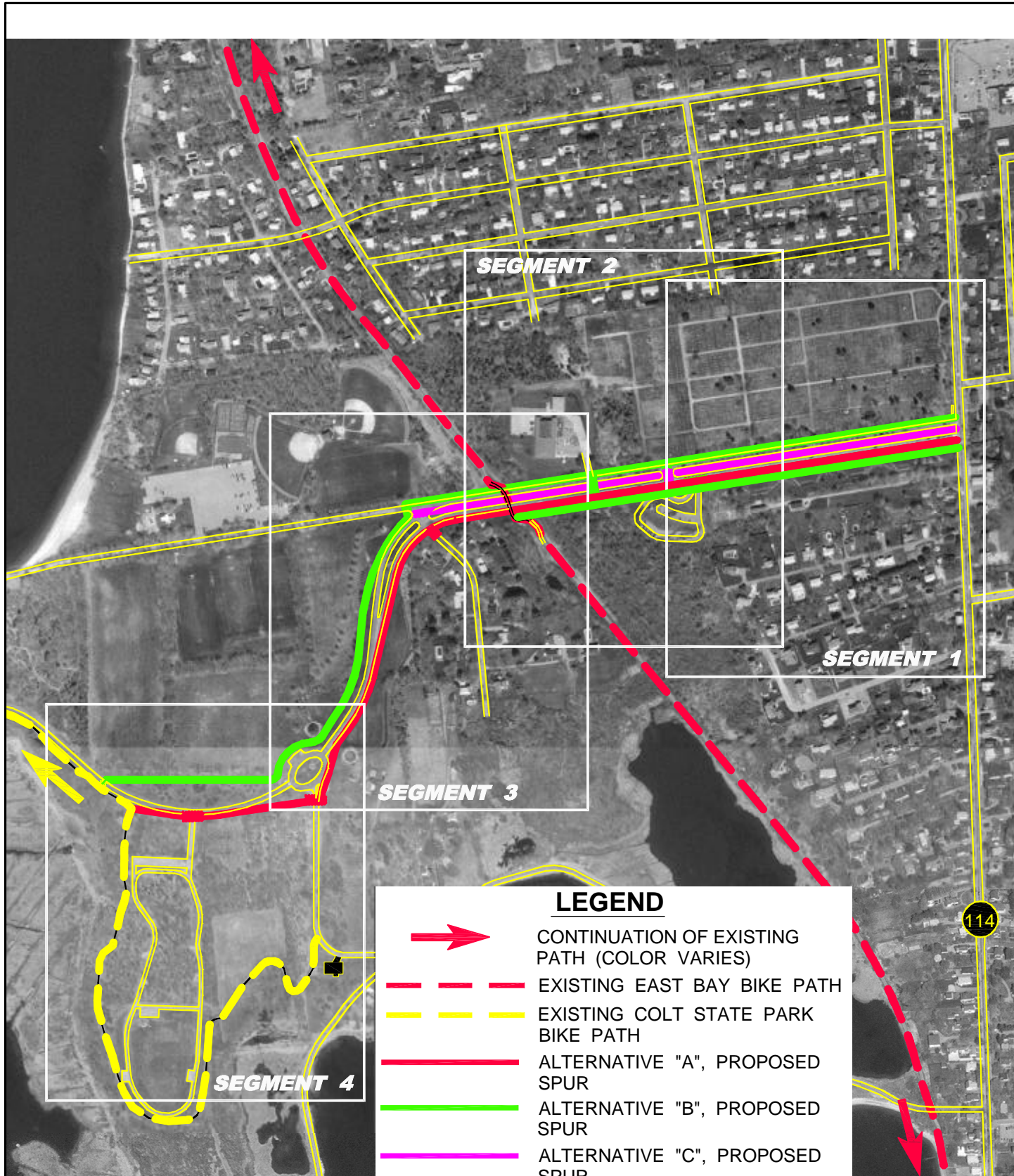
LEGEND

-  PROPOSED CROSSWALK (COLOR VARIES)
-  PROPOSED SIGN
-  CONTINUATION OF EXISTING PATH (COLOR VARIES)
-  EXISTING EAST BAY BIKE PATH
-  EXISTING COLT STATE PARK BIKE PATH
-  ALTERNATIVE "A", PROPOSED SPUR
-  ALTERNATIVE "B", PROPOSED SPUR
-  ALTERNATIVE "C", PROPOSED SPUR
-  EXISTING ROADWAY



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Bristol, Rhode Island
OVERALL SITE PLAN



LEGEND	
	CONTINUATION OF EXISTING PATH (COLOR VARIES)
	EXISTING EAST BAY BIKE PATH
	EXISTING COLT STATE PARK BIKE PATH
	ALTERNATIVE "A", PROPOSED SPUR
	ALTERNATIVE "B", PROPOSED SPUR
	ALTERNATIVE "C", PROPOSED SPUR
	EXISTING ROADWAY

Scale: 1"= 600'±



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SEGMENT LOCATION PLAN

CRITERIA

Design Criteria

Recommendations for bikeway classification and design of the East Bay Bike Path and Colt State Park Spur project were based on the 1999 AASHTO “*Guide for the Development of Bicycle Facilities*.” A description of each of the four bike facility types is explained below and Figure 3, Bike Facility Class, illustrates three of these types. The recommended bicycle facility is based on several factors including the ability of the users, specific corridor conditions, existing roadway conditions, and associated facility cost to upgrade the roadway to an acceptable bicycle facility.

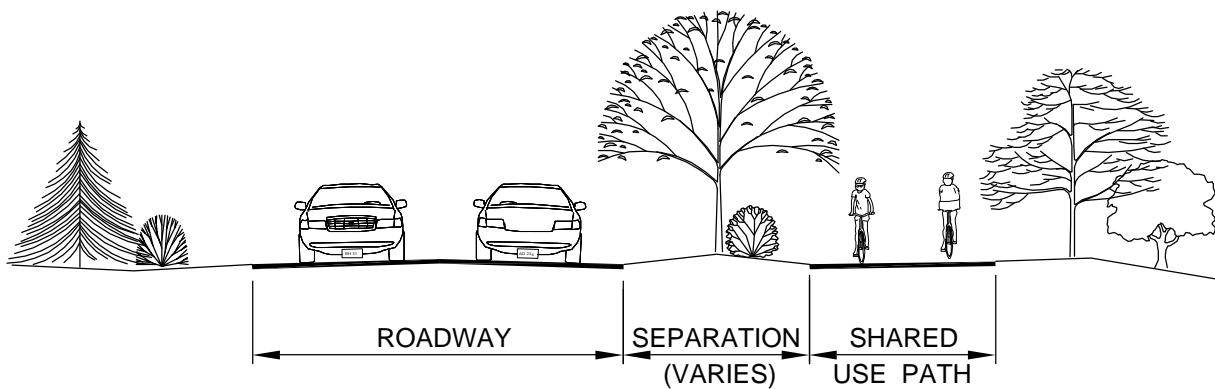
Shared Roadway:

A Shared Roadway facility has no bikeway classification or designation. According to AASHTO, different types of roadway conditions can result in a Shared Roadway designation. One condition is that the existing street system is currently being used for efficient bicycle travel without signing and striping. A second condition is that the existing roadway is not deemed suitable for bicycle travel and, therefore, bicycle travel should not be encouraged by designating the route by means of signing and/or marking as an approved bikeway. Another condition that could lead to a Shared Roadway classification is that the roadway is not considered a high demand bicycle corridor and as such the road should not be designated as another bikeway classification, regardless of roadway conditions. On roadways without designated bikeways, a minimum lane width of 12 feet, 14 feet desirable, can best accommodate both the bicyclist and motorist.

Shared Use Path:

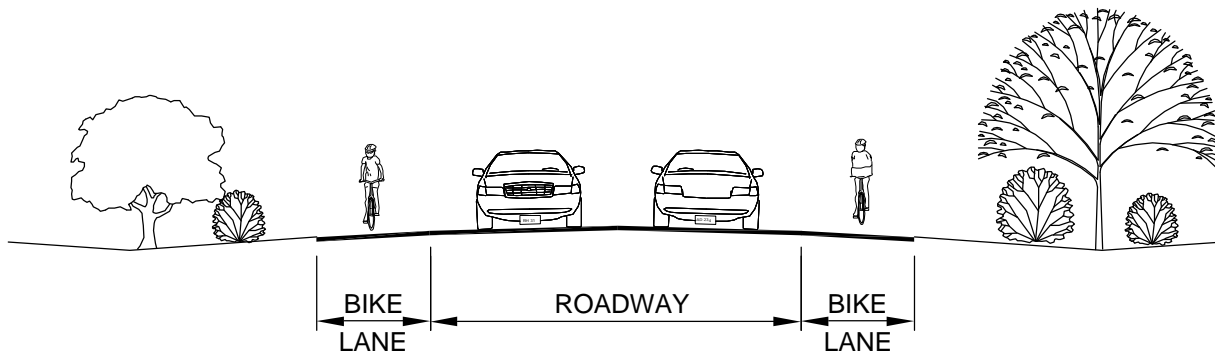
A Shared Use Path should be thought of as a complementary system of off-road transportation routes for bicyclists and others that serve as a necessary extension to the roadway network. Most Shared Use Paths are facilities on exclusive right-of-way, are designed off-road, and are physically separated from motor vehicle traffic. Shared Use Paths can be located along rivers, ocean fronts, canals, abandoned or active railroad and utility right-of-way, limited access freeways, within college campuses or within and between parks. Shared Use Paths are designed to work with the on-road bicycle facilities to provide the greatest opportunities to bicyclists and pedestrians. For Shared Use Paths to be successful, it is very important to provide users with connections to the roadway network. A critical component of Shared Use Paths are the transitions to and from the roadway network.





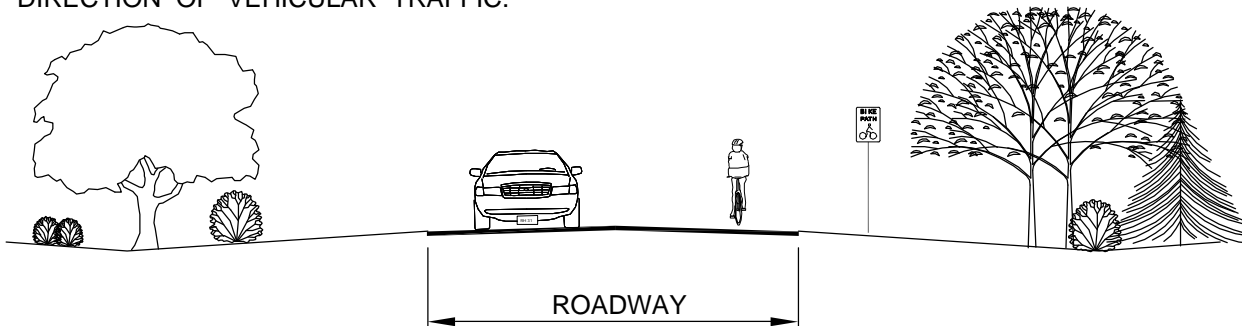
SHARED USE PATH

A BIKEWAY PHYSICALLY SEPARATED FROM MOTORIZED VEHICULAR TRAFFIC BY AN OPEN SPACE OR BARRIER WITHIN THE HIGHWAY RIGHT - OF - WAY OR WITHIN AN INDEPENDENT RIGHT - OF - WAY. THESE PATHS WILL ALSO BE USED BY PEDESTRIANS, SKATERS, WHEELCHAIRS, JOGGERS AND OTHER NON - MOTORIZED USERS.



BIKE LANE

A PORTION OF A ROADWAY WHICH HAS BEEN DESIGNATED BY STRIPING, SIGNING, AND PAVEMENT MARKINGS FOR THE PREFERENTIAL OR EXCLUSIVE USE OF BICYCLISTS. BIKE LANES ARE ONE - WAY DIRECTIONAL TRAVEL LANES, CORRESPONDING WITH THE DIRECTION OF VEHICULAR TRAFFIC.



SIGNED SHARED ROADWAY

A SIGNED SHARED ROADWAY WHICH HAS BEEN DESIGNATED BY SIGNING AS A PREFERRED ROUTE FOR BICYCLE USE. THE SIGNED SHARED ROADWAY, WHICH IS OPEN TO BOTH BICYCLE AND MOTOR VEHICLE TRAVEL, MAY BE WITH OR WITHOUT PAVED SHOULDERS AND / OR CURBING. BICYCLISTS TRAVEL IN THE SAME DIRECTION AS VEHICLES SHARING THE SAME SIDE OF THE ROADWAY.

Not To Scale



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BIKE FACILITY CLASS

Bike Lane:

A Bike Lane is a portion of roadway that has been designated with striping, signing, and pavement markings for preferred or exclusive use by bicyclists. Bike Lanes should always be one-way, carrying bicyclists in the same direction as the adjacent travel lane and on the right side of the road. Minimum travel lane width is the same as for that of the “Shared Roadway”, 12 feet minimum, 14 feet desirable. Widths greater than 14 feet may encourage the undesirable operation of two motor vehicles in one lane and therefore is not recommended. In areas where 15 feet of pavement width exists, striping of lanes for bikes or shoulders should be considered. Width requirements for Bike Lanes vary according to roadway conditions. Bike Lanes may have a minimum width of 4 feet, where the area beyond the paved shoulder can provide additional maneuvering width. A width of 5 feet or greater is preferred where truck traffic is present or where motor vehicle speeds exceed 50 MPH. Where parking is permitted, the Bike Lane should be placed between the parking area and the travel lane and have a minimum width of 5 feet. A Bike Lane should be delineated from motor vehicle travel lanes with a 6-inch solid white line. Figure 4, Typical Bike Lane Cross Sections, is the standard provided by AASHTO for the delineation and designation of Bike Lanes for different roadway situations.

Signed Shared Roadways:

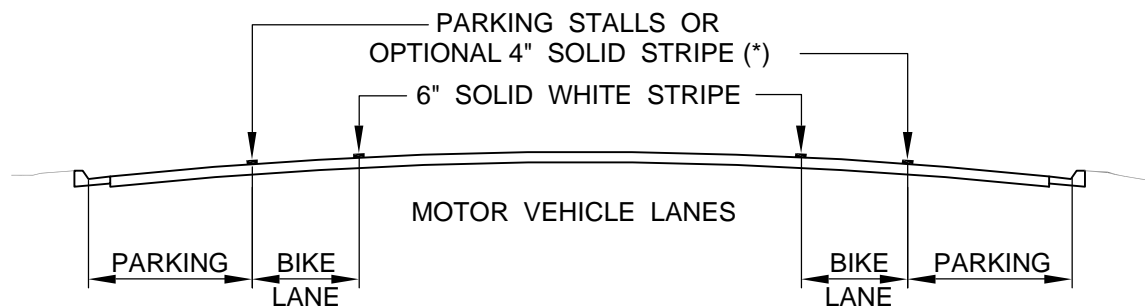
Signed Shared Roadways are those roads that have been identified by signing only as preferred routes through high demand corridors. Certain criteria must be considered prior to signing a route. These include, but are not limited to, the removal or restriction of on-street parking, smooth riding surface, regularly maintained roadways that meet the needs of bicyclists, and have wide shoulders.

A Signed Shared Roadway should have particular advantages for bicyclists over alternative routes. According to AASHTO, Signed Shared Roadways should provide through and direct travel, connect to other bicycle facilities, and give priority to bicyclists. Signing also advises motorists that bicycles are present.

General Guidelines

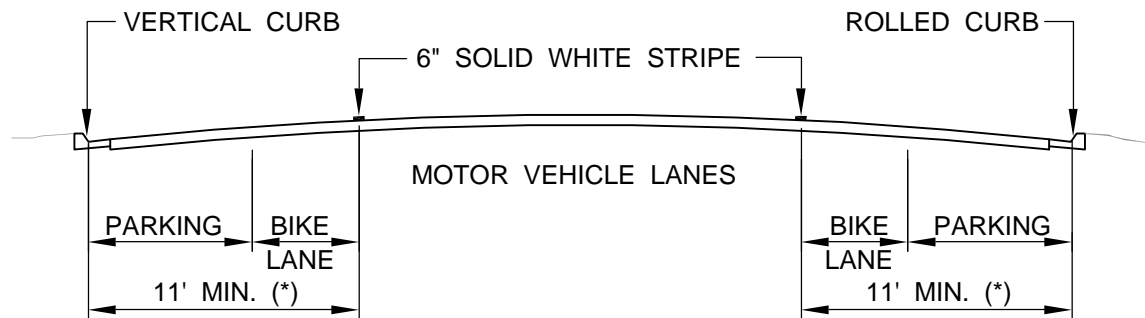
AASHTO provides three bicycle user types that are a helpful guide in assisting highway designers in determining the impact of different facility types and roadway conditions on bicyclists.





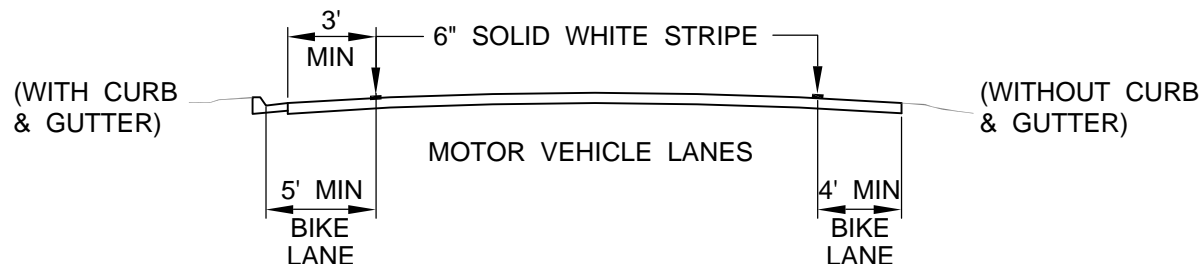
ON STREET PARKING

*THE OPTIONAL SOLID WHITE STRIPE MAY BE ADVISABLE WHERE STALLS ARE NECESSARY (BECAUSE PARKING IS LIGHT) BUT THERE IS CONCERN THAT MOTORISTS MAY MISCONSTRUE THE BIKE LANE TO BE A TRAFFIC LANE.

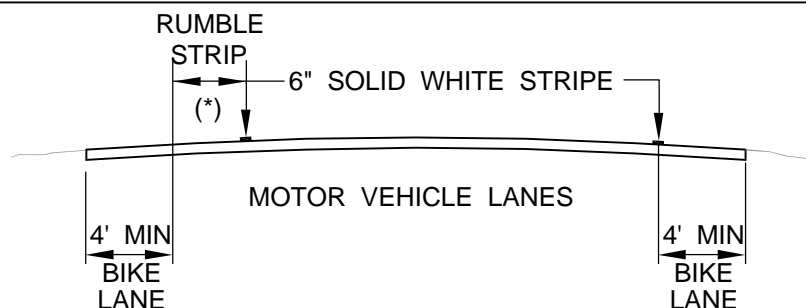


PARKING PERMITTED WITHOUT PARKING STRIPE OR STALL

* 13' IS RECOMMENDED WHERE THERE IS SUBSTANTIAL PARKING OR TURNOVER OF PARKED CARS IN HIGH (e.g. COMMERCIAL) AREAS.



PARKING PROHIBITED



TYPICAL ROADWAY IN OUTLYING AREAS PARKING PROTECTED

*IF RUMBLE STRIPS EXIST THERE SHOULD BE 4' MINIMUM FROM THE RUMBLE STRIPS TO THE OUTSIDE EDGE OF THE SHOULDER

Not To Scale



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TYPICAL BIKE LANE
CROSS SECTIONS

-
- Group A – Advanced Bicyclists: These are experienced riders who can operate under most traffic conditions. They are typically comfortable riding with motor vehicle traffic; however they need sufficient operating space on the traveled way or shoulder to eliminate the need for either them or a passing vehicle to shift position.
 - Group B – Basic Bicyclists: These are casual or new adult and teenage riders who are less confident of their ability to operate in traffic without special provisions for bicycles. Thus, basic riders are comfortable riding on neighborhood streets and Shared Use Paths and prefer designated facilities such as Bike Lanes or wide shoulder lanes on busier streets.
 - Group C – Children: These bicyclists ride on their own or with their parents. Residential streets with low motor vehicle speeds, linked with Shared Use Paths and busier streets with well-defined pavement markings between bicycles and vehicles, can accommodate children without encouraging them to ride in the travel lane of major arterials.

According to AASHTO, “width is the most critical variable affecting the ability of a roadway to accommodate bicycle traffic. In order for bicycles and motor vehicles to share the use of a roadway without compromising the level of service and safety for either, the facility should provide sufficient paved width to accommodate both modes.” AASHTO recommended paved widths vary with the roadway conditions. Like that of a “Shared Roadway,” minimum lane width of 12 feet is required but 14 feet is desirable to accommodate both bicyclists and motorists. These minimum useable lane widths provide maneuvering room for drivers exiting from or in areas with limited sight distances.

Signed Shared Roadways should be signed approximately every $\frac{1}{4}$ mile and at signalized intersections with both guide and supplemental signs. Also, directional signs are to be placed at every turn to both mark the road and to confirm that the rider has made the correct turn. Bicycle warning signs should be installed to warn bicyclists of conditions not readily apparent, such as “HILL” or “CURVE”, along the route. Roadways that do not meet the criteria for a Signed Shared Roadway should not be signed as such. However, destination signs may be posted if the roadway leads to a logical destination such as a park, school, or municipal offices. Crossing signs and crosswalks can be proposed at locations where it is necessary to cross the road to access the route, paths or other destinations. The MUTCD provides regulatory sign standards and markings.



SEGMENT 1 & ALTERNATIVES

Description:



*Photo 1. Entrance To Colt State Park
At Hope Street*

The area studied for this approximate 1,200-foot segment length begins at the signalized intersection of Hope Street and Asylum Road at the Colt State Park entrance (Photo 1). It ends at the East Bay Bike Path parking lot, located on the south side of Asylum Road and approximately ¼ mile west of the Colt State Park entrance. The Rhode Island Public Transportation Authority (RIPTA) has a bus stop on the northwest corner of the intersection of Hope Street (Route 114) and Asylum Road. At the intersection there are crosswalks and ramped sidewalks across Asylum

Road. There are no crosswalks across Hope Street. Consideration should be given to each of the alternatives in this segment to relocating the existing RIPTA bus stop to the southwest corner of the Hope Street and Asylum Road intersection. This move would provide cyclists and other bus users to more direct access to the bike path alternatives proposed for the south side of Asylum Road.

Alternative A:

Referring to Figure 5, the Alternative “A”, Segment 1 Plan, this alternative would consider a Shared Use Path being built that is similar to the 10-foot wide paved East Bay Bike Path for this segment. This new Shared Use Path would run along the south side of Asylum Road, approximately 4 feet to the south of the existing edge of pavement (Photo 2).

This segment of the path would terminate at the existing East Bay Bike Path parking lot. At the parking lot a crosswalk is proposed. Except for streetlights, there are no obstacles that would require removal or relocation in this State owned area. Any light installation to be performed with the Colt State Park Street Lighting Restoration Program will need to be coordinated with for this effort.



Photo 2. Asylum Road

The opinion of probable costs to construct this alternative for this segment is approximately \$65,000.00, which includes the re-paving and re-striping of the existing parking lot. A breakdown of the associated items and costs to build the proposed bike facility in this area is provided in the Appendix A at the end of this report.

Alternative B:

This alternative would designate two, one-way Signed Shared Roadways, on the north and south sides of Asylum Road as indicated on Figure 6, the Alternative “B”, Segment 1 Plan. An existing stonewall on the north side and close to the edge of Asylum Road prevents the creation of a 10-foot



Photo 3. Stonewall Along North Side Of Asylum Road

wide Shared Use Path off the shoulder (Photo 3). The Signed Shared Roadway would be created by adding signage on Asylum Road. This route could be classified as a Bike Lane by allowing for a 4-foot wide shoulder of Asylum Road to be striped, marked, and signed as a bikeway for the exclusive use by bicyclists. A crosswalk would be required across Asylum Road and the median for access to and from the East Bay Bike Path parking lot from the north side of Asylum Road. Another crosswalk is proposed across the driveway of the parking lot.

The opinion of probable costs to construct this alternative for this segment is approximately \$3,000.00. A breakdown of the associated items and costs to build the proposed bike facility in this area is provided in the Appendix A at the end of this report.

Alternative C:

This alternative, shown on Figure 7, the Alternative “C”, Segment 1 Plan, would also create a Shared Use Path similar to that of the existing East Bay 10-foot wide, paved path. Its location would be between the trees that are lined in the grassed median strip separating the two opposing travel lanes. It would terminate at the paved turnaround at the signed



Photo 4. Entrance to East Bay Bike Path Parking



entrance to the parking lot (Photo 4). Two crosswalks would be provided there; the first to allow bicyclists to cross the median and continue on Alternative C for Segment 2 and the second crosswalk would allow for those bicyclists who park in the lot to cross Asylum Road's eastbound travel lane and access this alternative. The existing sign would require relocation to make way for the proposed Shared Use Path.

The opinion of probable costs to construct this alternative for this segment is approximately \$39,000.00. A breakdown of the associated items and costs to build the proposed bike facility in this area is provided in the Appendix A at the end of this report.





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ALTERNATIVE "A", SEGMENT 1



Scale: 1" = 200'±



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ALTERNATIVE "B", SEGMENT 1



SEGMENT 2 & ALTERNATIVES

Description:

The area studied for this segment is the connection of the East Bay Bike Path parking lot to the East Bay Bike Path, where it crosses Asylum Road, approximately $\frac{3}{4}$ mile west of the Hope Street park entrance. The length of this segment is approximately 850 feet.

Alternative A:

Similar to Alternative A for Segment 1, this alternative would construct a Shared Use Path like the 10-foot wide paved East Bay Bike Path as shown on Figure 8, the Alternative “A”, Segment 2 Plan. The proposed Shared Use Path would exit at the west end edge of the parking lot (Photo 5) and continue until joining the East Bay Bike Path. This path would run along the south side of Asylum Road, approximately 4 feet south of the existing edge of pavement. Any lighting relocation for this



Photo 5. East Bay Bike Path Parking Lot Along South Side Of Asylum Road

alternative should be coordinated with the Colt State Park Street Lighting Restoration Program. The section of the Shared Use Path that would be constructed approximately 300 feet west of the parking lot would be built in a very wooded, steep and wet area before connecting to the East Bay Bike Path. A 10-foot wide boardwalk is proposed for this 500-foot section of path. Necessary wetland and any other associated permits required to perform the work in this area would need to be obtained from the DEM

and other agencies.

The opinion of probable costs to construct this alternative for this segment is approximately \$143,000.00. A breakdown of the associated items and costs to build the proposed bike facility in this area is provided in the Appendix A at the end of this report.

Alternative B:

Referring to Figure 9, the Alternative “B”, Segment 2 Plan, the design of this alternative for this segment is similar to Alternative B for Segment 1. It would create two, one-way Signed Shared Roadway on the north and south sides of Asylum Road. The continuation of the existing stonewall

on the north side of Asylum Road prevents yet again the creation of a 10-foot wide path in the shoulder. The Signed Shared Roadway would be created by adding signage on Asylum Road. This same route could be classified as a Bike Lane by allowing a 4-foot wide strip of Asylum Road's existing pavement to be striped, marked, and signed as a bikeway for the exclusive use by bicyclists. The stonewall ends at the National Reserve Center driveway. Within this State owned area there is



Photo 6. North Side Of Asylum Road At The National Reserve Center

available space behind the existing edge of pavement to propose the creation of a Shared Use Path like the East Bay Bike Path (Photo 6). A crosswalk is proposed at the existing paved median located near the National Reserve Center for the southerly route or lane to access the proposed Shared Use Path. The path would run along the north side of Asylum Road, approximately 4 feet behind the existing edge of pavement. It would continue until joining the East Bay Bike Path. A headwall with a riprap lined

drainage swale adjacent to the East Bay Bike Path exists where this segment of new path is proposed to cross. A wood footbridge would accommodate the bicyclist and leave the drainage improvement intact.

The opinion of probable costs to construct this alternative for this segment is approximately \$24,000.00. A breakdown of the associated items and costs to build the proposed bike facility in this area is provided in the Appendix A at the end of this report.

Alternative C:

Similar to Alternative C for Segment 1, this alternative would construct a new 10-foot wide Shared Use Path. This proposed Shared Use Path is shown on Figure 10, the Alternative "C", Segment 2 Plan. It would be located between the trees that are lined in the grassed median strip that separates the two opposing travel lanes (Photo 7). The path would meet at the existing East Bay Bike Path crossing of Asylum Road. A crosswalk would be required at the

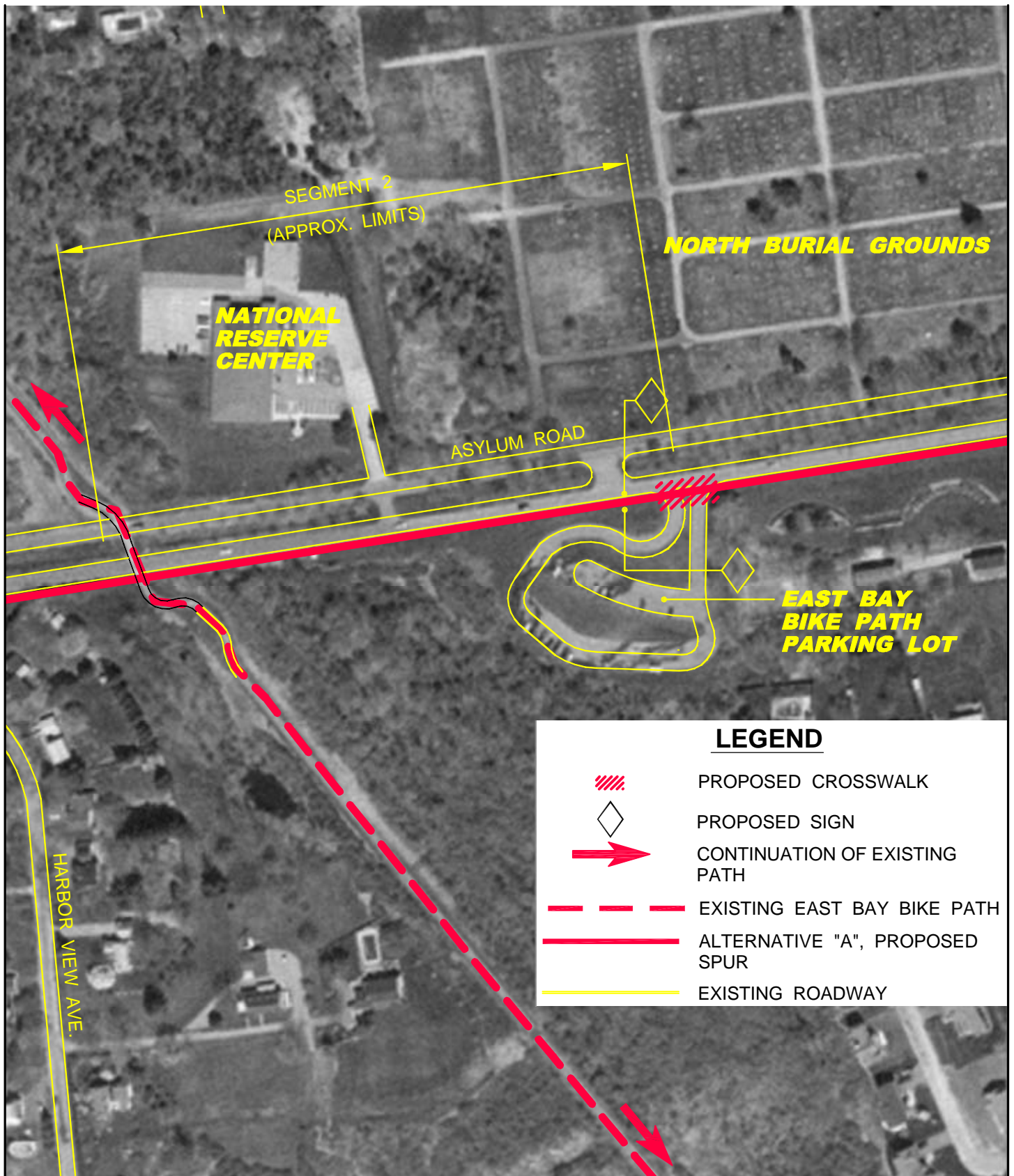


Photo 7. Median Turnaround On Asylum Road

turnaround. An existing drainage swale is located in the center of the median. To continue the construction of the Shared Use Path and avoid drainage modifications a 10-foot wide boardwalk is proposed in this area.

The opinion of probable costs to construct this alternative for this segment is approximately \$106,000.00. A breakdown of the associated items and costs to build the proposed bike facility in this area is provided in the Appendix A at the end of this report.





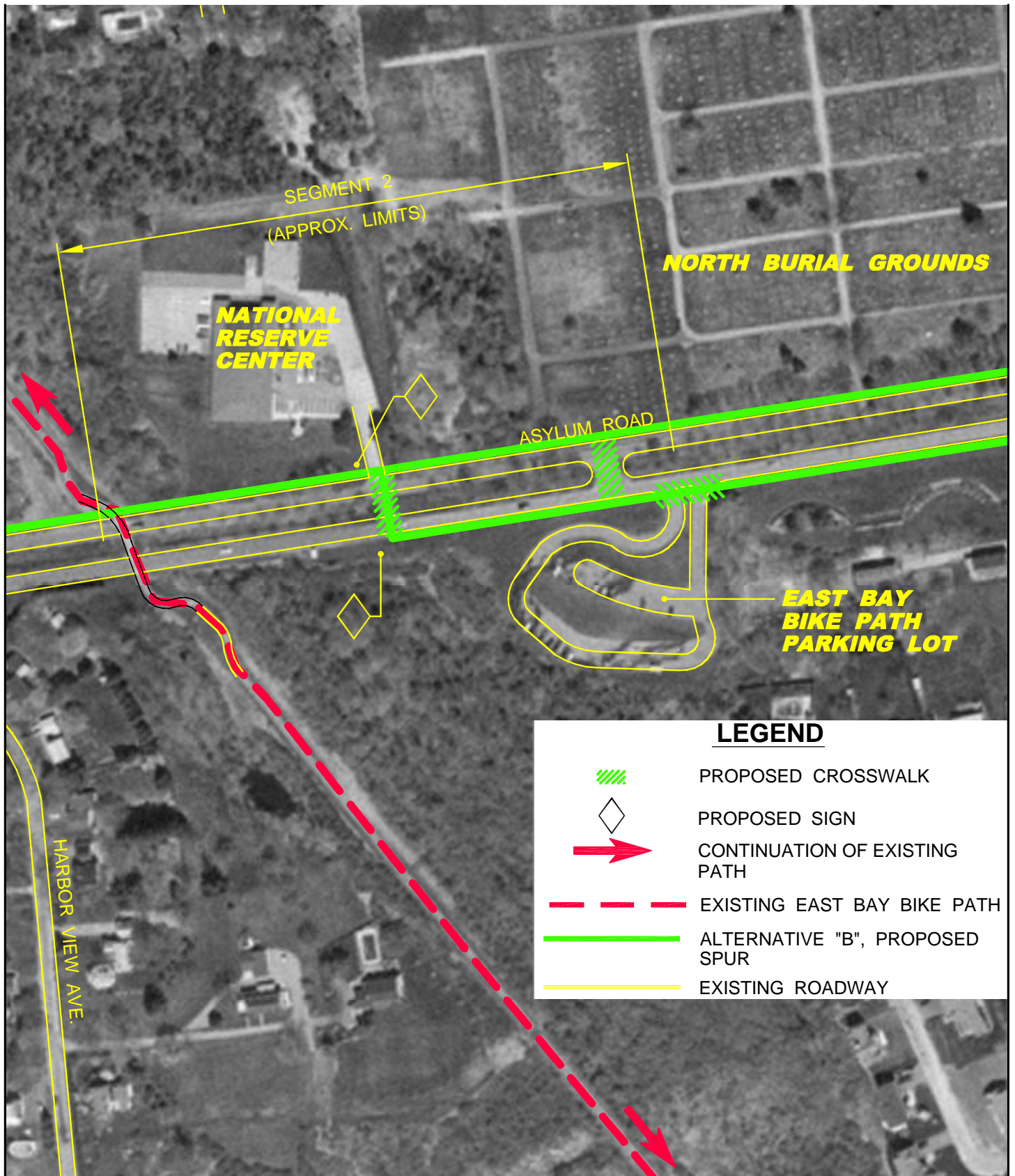
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ALTERNATIVE "A", SEGMENT 2



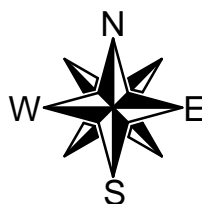
LEGEND

-  PROPOSED CROSSWALK
-  PROPOSED SIGN
-  CONTINUATION OF EXISTING PATH
-  EXISTING EAST BAY BIKE PATH
-  ALTERNATIVE "B", PROPOSED SPUR
-  EXISTING ROADWAY

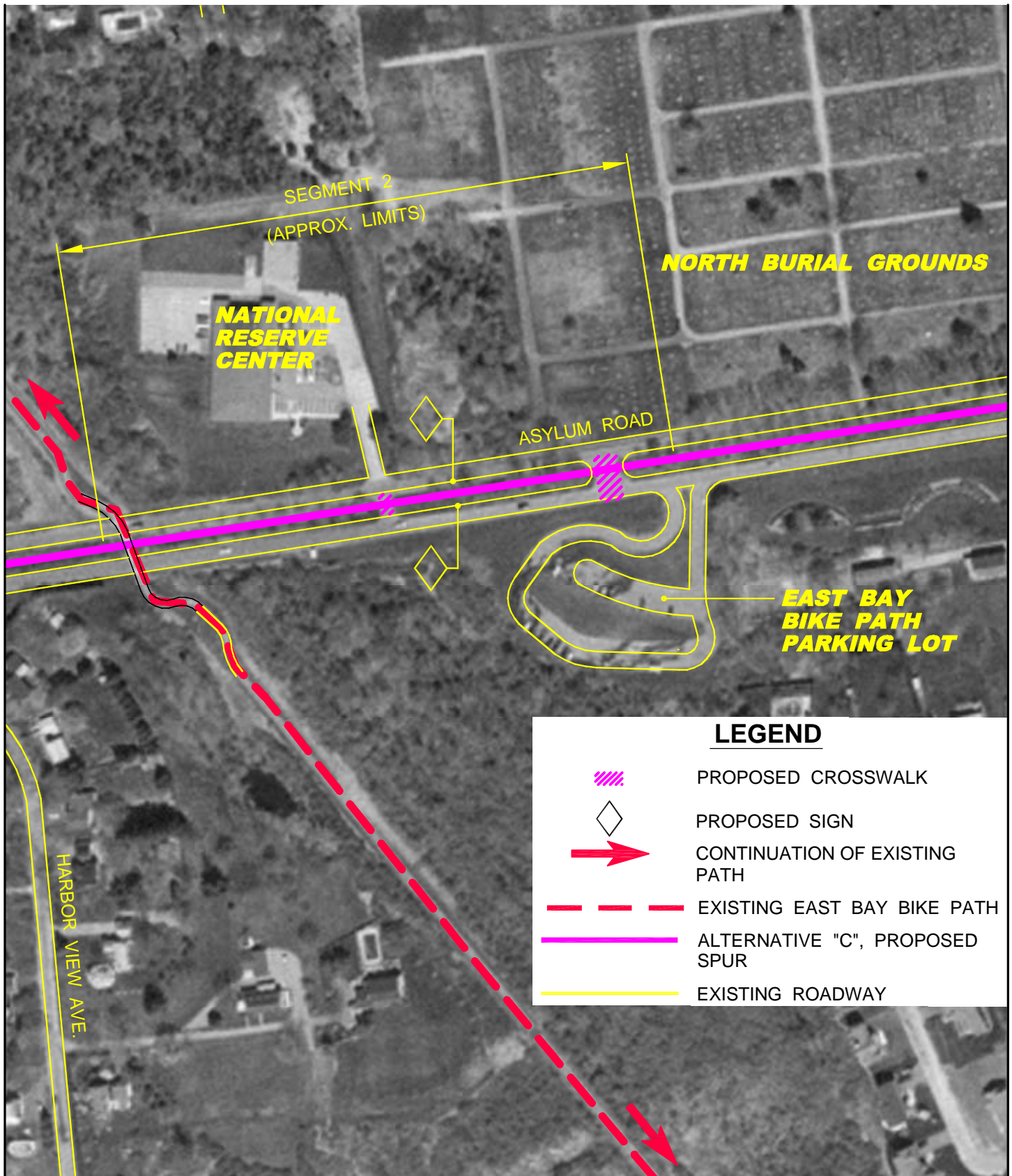
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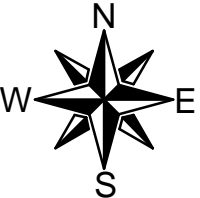


METROPOLITAN PROVIDENCE
BICYCLE FACILITIES
SITE ASSESSMENT PROJECT
EAST BAY BIKE PATH /
COLT STATE PARK SPUR
Bristol, Rhode Island
ALTERNATIVE "B", SEGMENT 2



LEGEND	
	PROPOSED CROSSWALK
	PROPOSED SIGN
	CONTINUATION OF EXISTING PATH
	EXISTING EAST BAY BIKE PATH
	ALTERNATIVE "C", PROPOSED SPUR
	EXISTING ROADWAY

Scale: 1"= 200'±

 <p> PARE ENGINEERING CORPORATION 8 BLACKSTONE VALLEY PLACE LINCOLN, RI 02865 401 - 334 - 4100 </p>		<p> METROPOLITAN PROVIDENCE BICYCLE FACILITIES SITE ASSESSMENT PROJECT EAST BAY BIKE PATH / COLT STATE PARK SPUR Bristol, Rhode Island ALTERNATIVE "C", SEGMENT 2 </p>
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SEGMENT 3 & ALTERNATIVES

Description:

This segment extends west along Asylum Road for approximately 1,700 feet from the East Bay Bike Path to the intersection with the entrance booths at the rotary.

Alternative A:

Similar to Alternative A for both Segments 1 and 2 and as shown on Figure 11, the Alternative “A”, Segment 3 Plan, this alternative would construct a 10-foot wide Shared Use Path. This Shared Use Path would run along the south side of Asylum Road, approximately 4 feet behind the existing edge of pavement. It would continue south along the entrance road to the east side of Park Road. Crosswalks would be proposed at Park Road and Harbor View Avenue (Photo 8).



Photo 8. Near Park Road and Harbor View Avenue

The opinion of probable costs to construct this alternative for this segment is approximately \$54,000.00. A breakdown of the associated items and costs to build the proposed bike facility in this area is provided in the Appendix A at the end of this report.

Alternative B:



Photo 9. East Bay Bike Path

As indicated on Figure 12, the Alternative “B”, Segment 3 Plan, this alternative would construct a 10-foot wide Shared Use Path. This Shared Use Path would run along the north side of Asylum Road, approximately 4 feet behind the existing edge of pavement. There is a headwall with a drainage swale lined with riprap adjacent to the East Bay Bike Path

(Photo 9). A wood footbridge would be proposed to cross it and continue on with the path. The Shared Use Path would continue on to the Bristol Town

Beach/Sports Complex and Colt State Park junction. There are concrete slabs, and electric box, a

sign, two poles and trees in the area before the complex and park junction that will require removal and relocation to permit the continuation of the path's construction (Photo 10). A crosswalk and speed bump is proposed along Asylum Road at the junction location. After crossing the road, the path would be constructed along the western side of the Colt State Park entrance road. Approaching the rotary, the proposed path in this open space would be aligned such that relocation of manholes, lights, electric boxes and parking lots would be avoided and the removal of trees, shrubs and the



Photo 10. Junction Of Entrances To Colt State Park And Bristol's Town Beach/Sports Complex



Photo 11. Before Rotary and Entrance Booths



Photo 12. Entrance Booths At Rotary

disturbance of landscaping minimized (Photo 11). The path would continue to the opening in the stonewall, at the gate, adjacent to the entrance booths (Photo 12). Any lighting relocation required to accomplish this alternative would be coordinated with the Colt State Park Street Lighting Restoration Program.

The opinion of probable costs to construct this alternative for this segment is approximately \$71,000.00. A breakdown of the associated items and costs to build the proposed bike facility in this area is provided in the Appendix A at the end of this report.

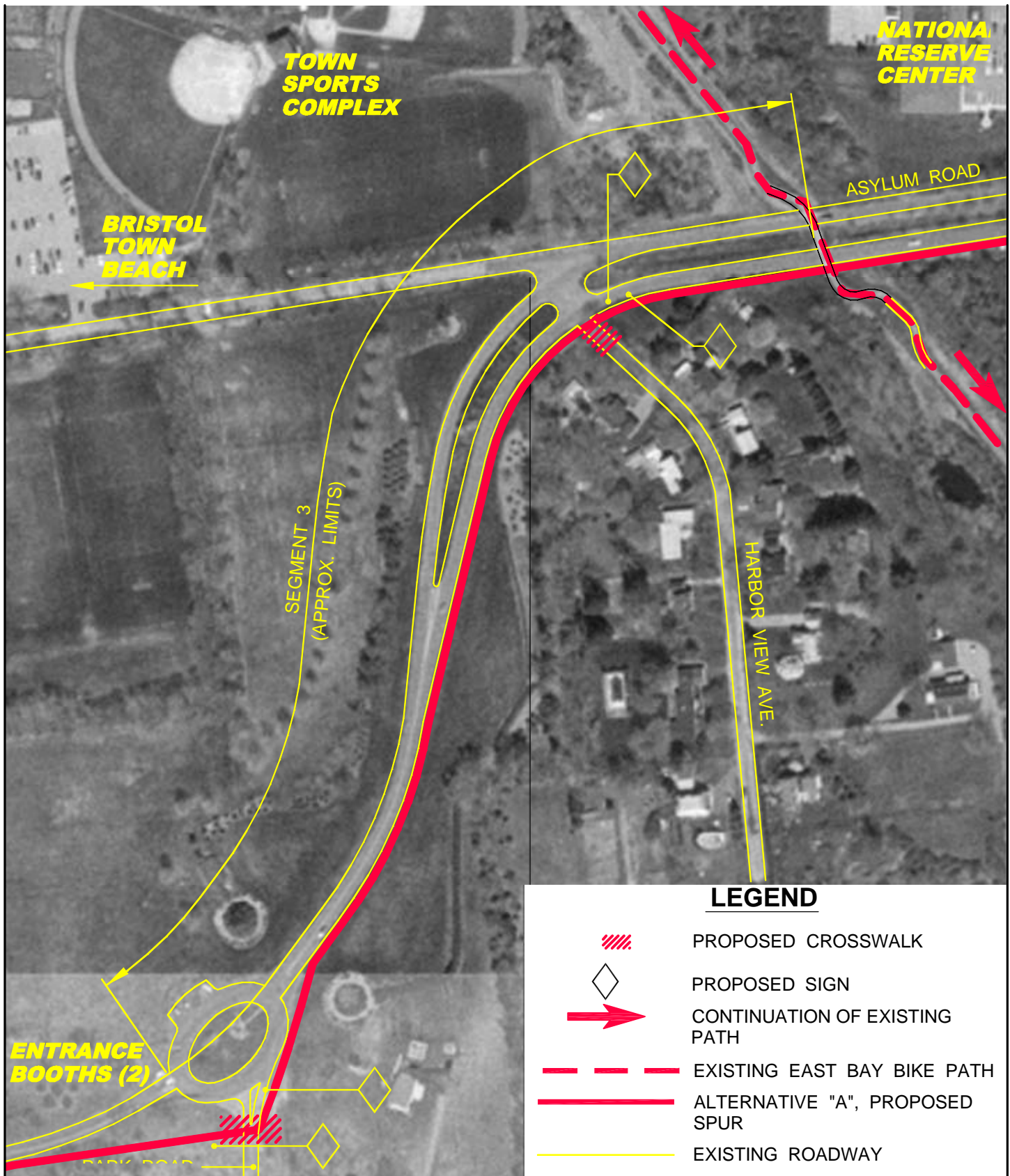
Alternative C:

Figure 13, the Alternative "C", Segment 3 Plan identifies that this alternative in this segment is similar to Alternative C for both Segments 1 and 2, that is, the construction of a 10-foot wide Shared Use Path. It would be located between the trees that are lined in the grassed median strip that

separates the two opposing travel lanes. There is an existing drainage swale located in the center of the median. To avoid extensive drainage alterations, a 10-foot wide boardwalk is proposed to continue the new Shared Use Path in this area. A crosswalk would be located at the end of the median and cross the intersection of Asylum Road with the Colt State Park entrance road. After crossing the road the Shared Use Path would extend southerly along the Colt State Park entrance road, as described in Alternative B of this Segment 3. The continuation of Alternative C is no longer a viable alternative because of the absence of a median.

The opinion of probable costs to construct this alternative for this segment is approximately \$84,000.00. A breakdown of the associated items and costs to build the proposed bike facility in this area is provided in the Appendix A at the end of this report.

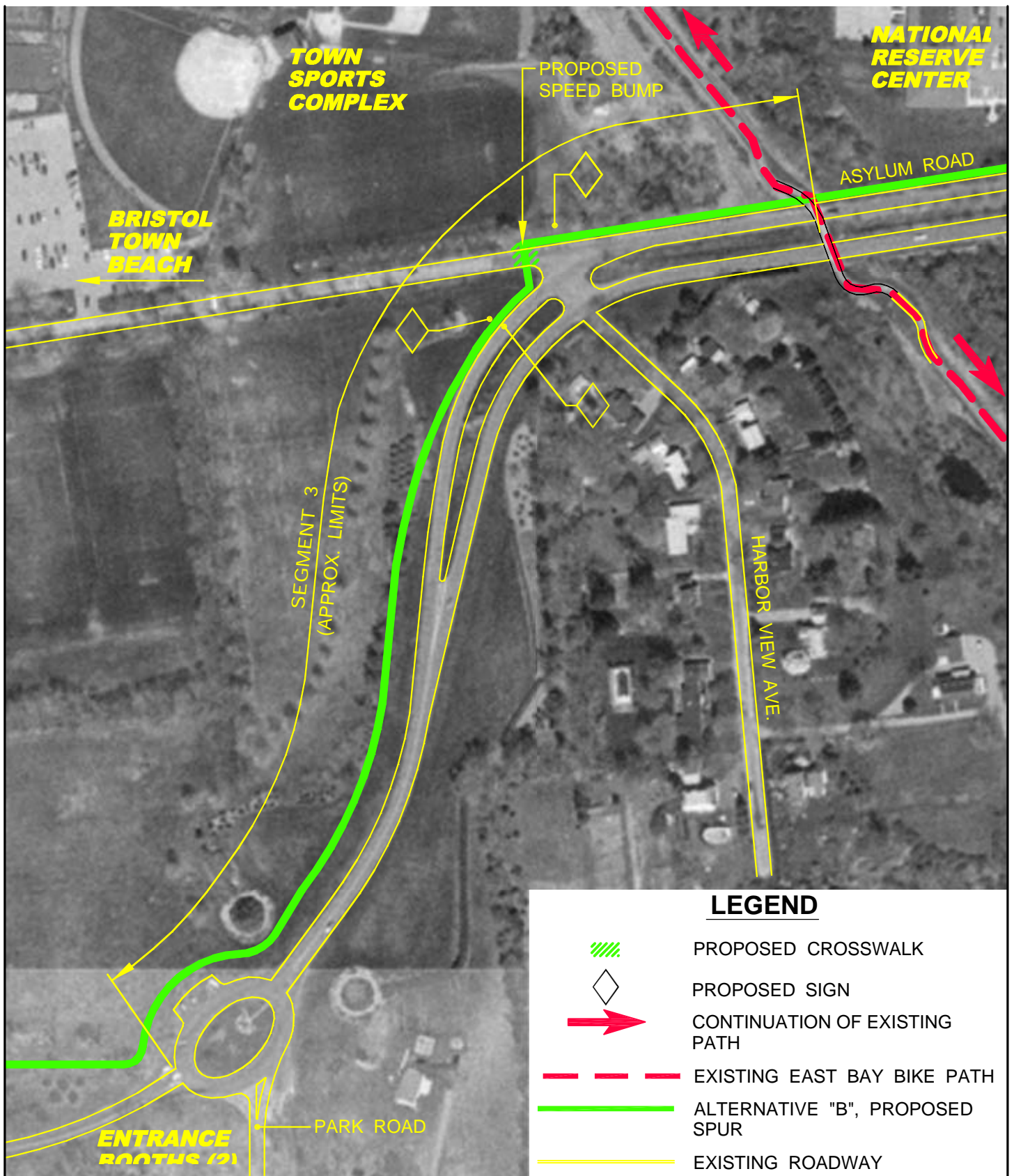




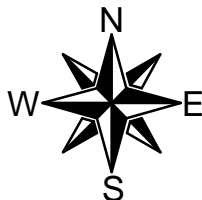
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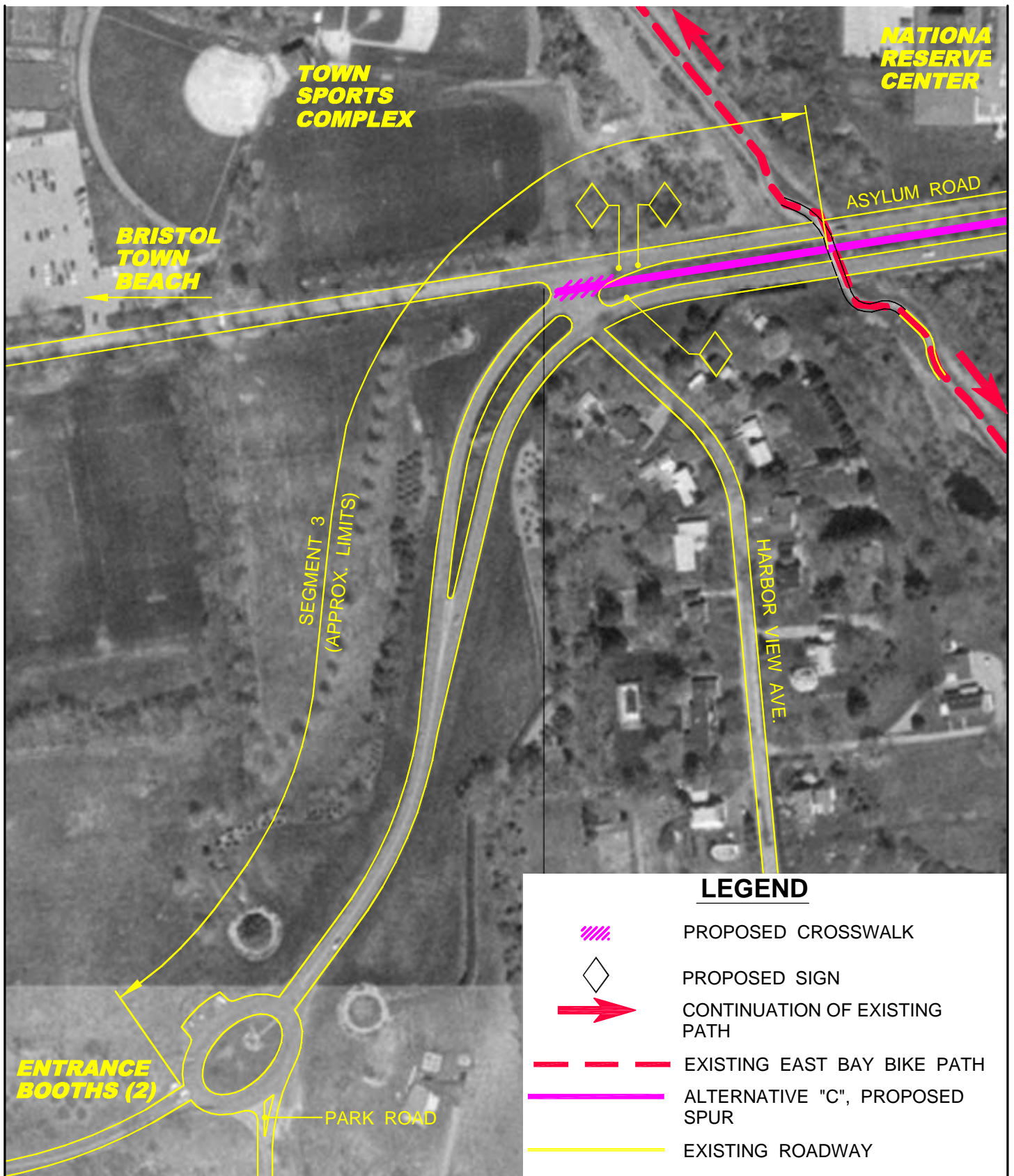
METROPOLITAN PROVIDENCE
BICYCLE FACILITIES
SITE ASSESSMENT PROJECT
EAST BAY BIKE PATH /
COLT STATE PARK SPUR
Bristol, Rhode Island
ALTERNATIVE "A", SEGMENT 3



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Bristol, Rhode Island
ALTERNATIVE "B", SEGMENT 3



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EAST BAY BIKE PATH /
COLT STATE PARK SPUR
Bristol, Rhode Island
ALTERNATIVE "C", SEGMENT 3

SEGMENT 4 & ALTERNATIVES

Description:

Included in this approximate 850 foot segment is the connection from the entrance booths at the rotary on the Colt State Park entrance road to the Colt State Park Bike Path.

Alternative A:

For this alternative and referring to Figure 14, the Alternative “A”, Segment 4 Plan, a 10-foot wide paved Shared Use Path is proposed. Its limits extend from the crosswalk at Park Road, along the south side of the Colt State Park entrance road, matching into the existing Colt State Park Bike Path at the “Scenic Gardens” loop (Photo 13). A crosswalk across the driveway to the “Scenic Gardens” is proposed. Picnic sites, restrooms, parking, and access to the entire Colt State Park and path facilities would then be accessible to the bicyclist here. A restroom destination sign is proposed at this location.



Photo 13. Scenic Garden Loop Entrance And Parking Lot

The opinion of probable costs to construct this alternative for this segment is approximately \$27,000.00. A breakdown of the associated items and costs to build the proposed bike facility in this area is provided in the Appendix A at the end of this report.

Alternative B:

As indicated on Figure 15, the Alternative “B”, Segment 4 Plan, this alternative would tie into the existing Colt State Park Bike Path by continuing the proposed 10-foot wide paved Shared Use Path. From the entrance booths at the rotary it would go through the opening in the stonewall and gate (Photo 14). The proposed path would then run along the north side of the roadway, crossing the entrance road at the existing “Path To Health” crosswalk, completing the connection to the Colt State Park Bike Path.

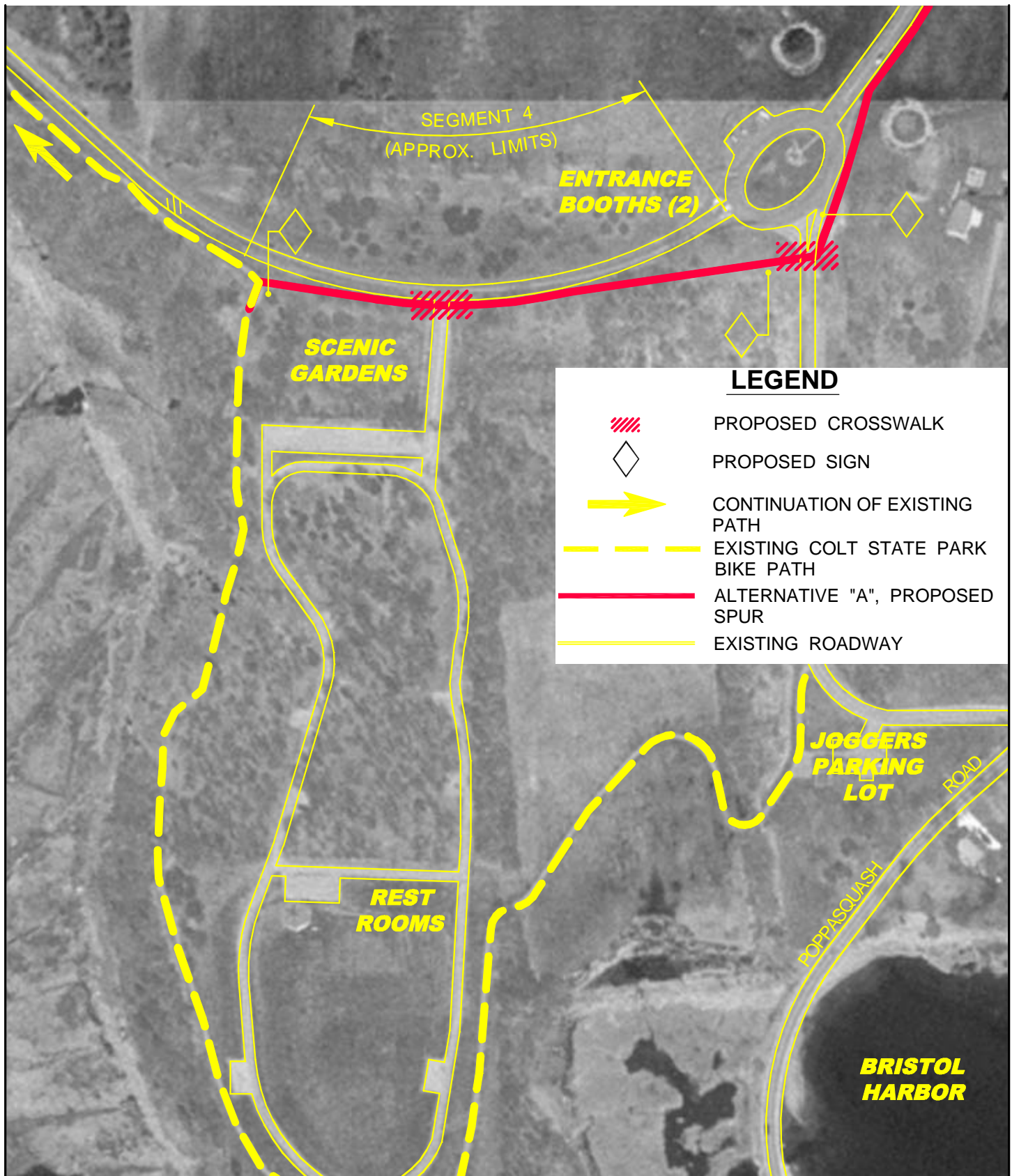


Photo 14. Opening In Stonewall

Picnic sites, restrooms, parking, and access to the entire Colt State Park and path facilities would then be accessible to the bicyclist. A restroom destination sign is proposed at this location.

The opinion of probable costs to construct this alternative for this segment is approximately \$27,000.00. A breakdown of the associated items and costs to build the proposed bike facility in this area is provided in the Appendix A at the end of this report.





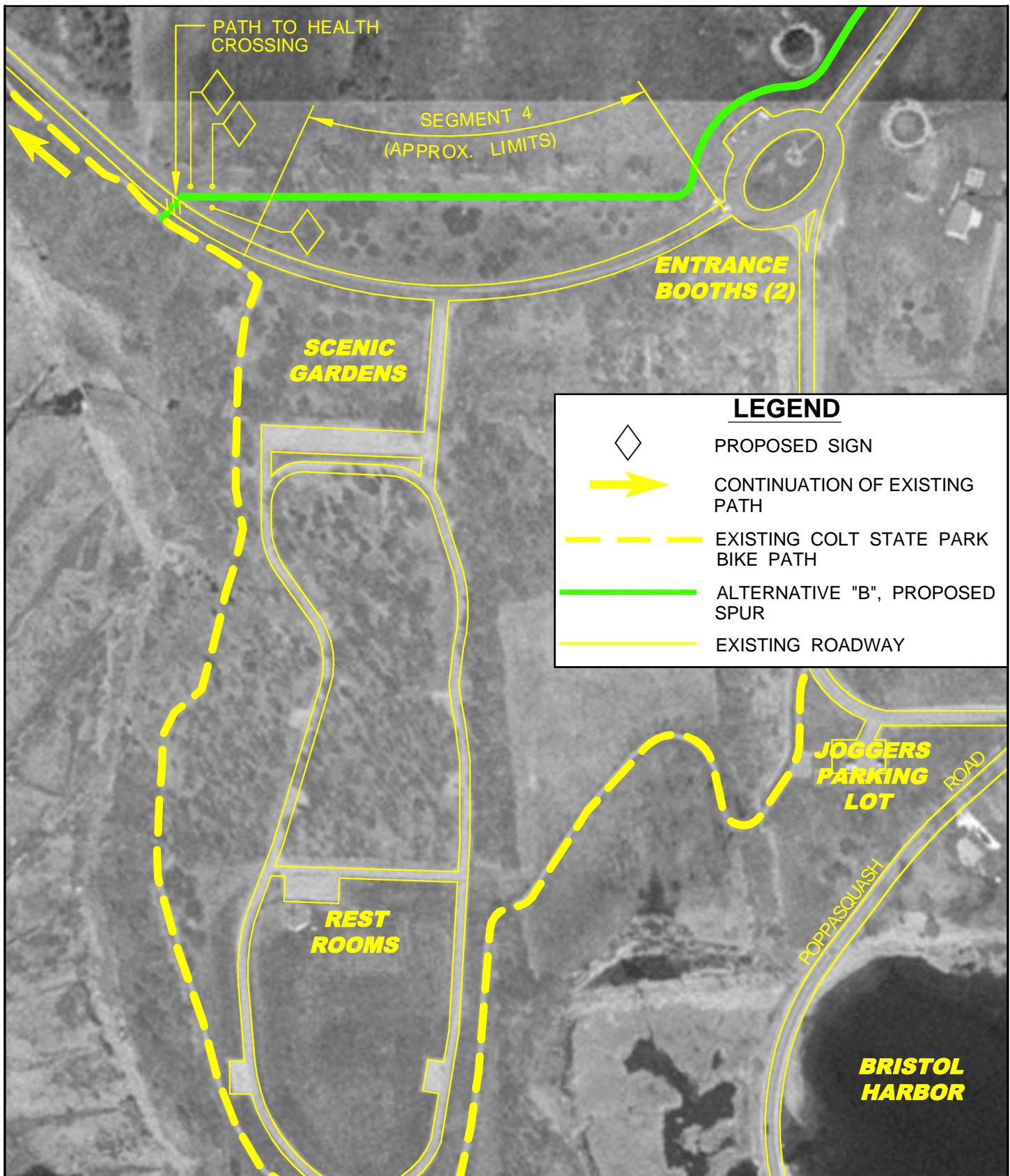
Scale: 1"= 200'±



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METROPOLITAN PROVIDENCE
BICYCLE FACILITIES
SITE ASSESSMENT PROJECT
EAST BAY BIKE PATH /
COLT STATE PARK SPUR
Bristol, Rhode Island
ALTERNATIVE "A", SEGMENT 4



Scale: 1"= 200'±



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METROPOLITAN PROVIDENCE
BICYCLE FACILITIES
SITE ASSESSMENT PROJECT
EAST BAY BIKE PATH /
COLT STATE PARK SPUR
Bristol, Rhode Island
ALTERNATIVE "B", SEGMENT 4

RECOMMENDATIONS

Recommended Colt State Park Spur:

The entire length of the proposed bicycle facility connection, from the intersection of Asylum Road with Hope Street to the existing Colt State Park Bike Path, is recommended to be a Shared Use Path. It is proposed to be a 10-foot wide paved Shared Use Path constructed completely off-road. It will be physically separated from motor vehicle traffic through the incorporation of a combination of Alternative C for Segments 1 and 2, and Alternative B for Segments 3 and 4 as has been described in this report.

Referencing Figure 16, the Recommended Spur Layout Plan, the proposed path begins at Hope Street, in the grassed median of Asylum Road. Consideration should be given to linking the existing RIPTA bus stop on Route 114 (Hope Street) to the entrance of the proposed path by means of a crosswalk and signage. This would provide cyclists and other bus riders convenient and safe access to the recommended bike path that will connect to the existing East Bay and Colt State Park Bike Paths. The recommended path would continue on in the grassed median, extending in a westerly direction across two median turn around areas. Users would cross at these locations at proposed crosswalks. The recommended path would then continue in the median until meeting the East Bay Bike Path. The path would utilize the East Bay Bike Path to cross Asylum Road and continue on the north side of Asylum Road to the junction of the Town beach/sports complex. A crosswalk on Asylum Road would bring bicyclists to the west side of the Colt State Park entrance road. The Shared Use Path would then continue south along the entrance road, past the rotary and entrance booths, to the opening in the stonewall, at the gate. The path would then extend west through the stonewall to the existing “Path To Health” crosswalk, meeting the Colt State Park Bike Path.

The following alternatives were eliminated as recommendations for the explanations that are given below. The described recommended Shared Use Path was then chosen and preferred based on these results.

The section of Alternative A for Segment 1 was eliminated because the proposed design would disturb the ornamental flowerbeds that are located in this area. The section of Alternative A for Segment 2 that continues from the existing parking lot and along the south side of Asylum Avenue was eliminated because of the extensive clearing and filling that would be necessary and the



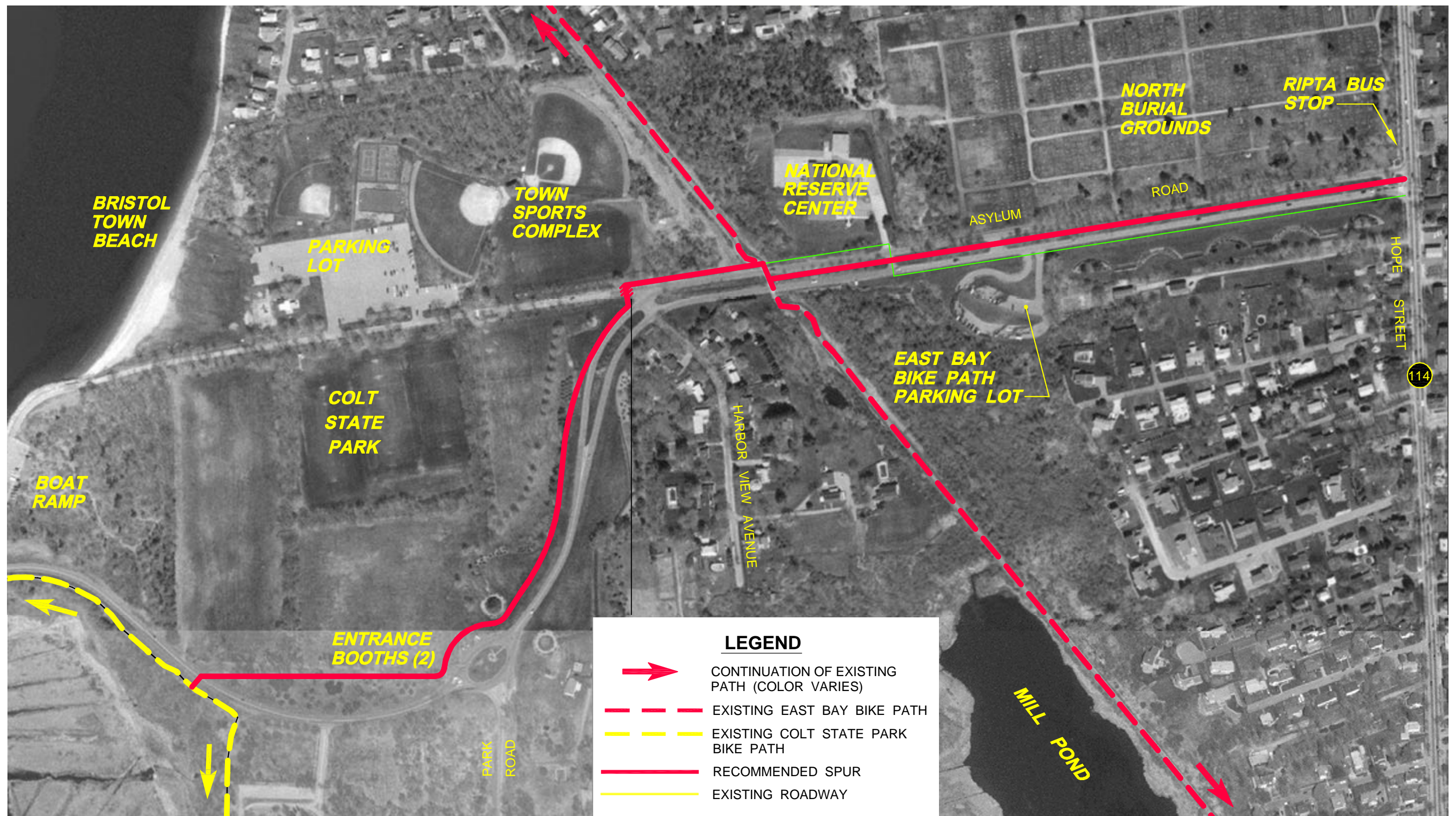
associated permitting issues that would be required to carry out this plan. Environmental concerns and the opinion of probable cost of \$143, 000.00 to build the path in this wooded and swamp area is more harmful and costly than the other practical and available alternatives.

Alternative A of Segments 3 and 4 require a total of three crosswalks. Choosing the recommended alternative within this same Segment needs only one crossing. Limiting the number of crosswalks keeps conflict between pedestrian, bicyclist, and motor vehicle to a minimum. This same reasoning resulted in the elimination of Alternative C for Segment 3. It is desirable to avoid crossing Asylum Road at the entrance to the Town's Sports Complex, an area that becomes quite congested and hazardous especially during the summer season.

It is suggested that Signed Shared Roadways or Bike Lanes not be included because of concerns with traffic issues. Therefore, Alternative B of Segment 1 and section of Alternative B of Segment 2 are eliminated. Bicyclists would have to share the road with motor vehicle traffic, which is especially heavy in the summer and warmer months. It is desirable to keep the bicyclist separated from the motor vehicle traffic and this can be accomplished by utilizing those alternatives that propose the Shared Use Path design.

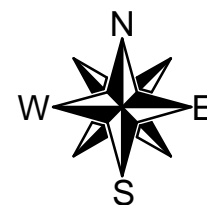
The opinion of probable cost for the recommended Shared Use Path is approximately \$250,000.00, which includes the cost of re-striping and re-paving of the existing East Bay Bike Path Parking lot that is located on Asylum Road. A breakdown of the associated items and costs to build the proposed bike facility is provided in the Appendix B at the end of this report. This preliminary opinion does not include the costs related with required environmental permitting efforts to accomplish the construction and completion of this proposed bike facility.





300' 0 300' 600' 1200'

1"=300'



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SITE ASSESSMENT PROJECT
EAST BAY BIKE PATH /
COLT STATE PARK SPUR
Bristol, Rhode Island
RECOMMENDED SPUR LAYOUT

Colt State Park Bike Path Recommended Improvements:

Recommended improvements to the Colt State Park Bike Path is shown on Figure 17, the Colt State Park Improvements Plan. The existing 8-foot wide paved path was built in the 1970s. It is approximately three miles long and is, generally, in fair condition. There are some sections, especially notable along Mill Gut, that are in very poor condition and require reconstruction.



*Photo 15. Colt State Park Bike Path
Near Boat Ramp*

Resurfacing of the Colt State Park Bike Path is needed at all locations except for the newer path that runs along the waterfront. Approximately 2 ¼ miles of resurfacing is required (Photo 15). No additional stripings or markings are proposed on the Colt State Park Bike Path. The existing pavement markings will be restriped at the same locations after resurfacing.



*Photo 16. Colt State Park Bike Path
Along Mill Gut*



*Photo 17. DEM Park Office Building
And Colt State Park Bike Path Crossing*

of path that follows along the westerly side of the salt pond marshland named Mill Gut has extensive cracking and potholes (Photo 16). This approximate ½ mile portion of the path, from the DEM park office to the bridge, needs to be reconstructed. The existing pavement would be removed, the sub grade

compacted prior to the installation of a new bituminous pavement surface. The existing Colt State Park Bike Path currently traverses the DEM park office parking lot and is not signed or marked in this area (Photo 17). It is proposed that this section be replaced by a new path that avoids the

parking lot completely. It would instead connect the existing path prior to entering the parking lot to the path near the southern tip of the Mill Gut. The proposed path would follow along Colt Drive and continue east, to meet the existing path. The length of this new section of path is approximately 650 feet.

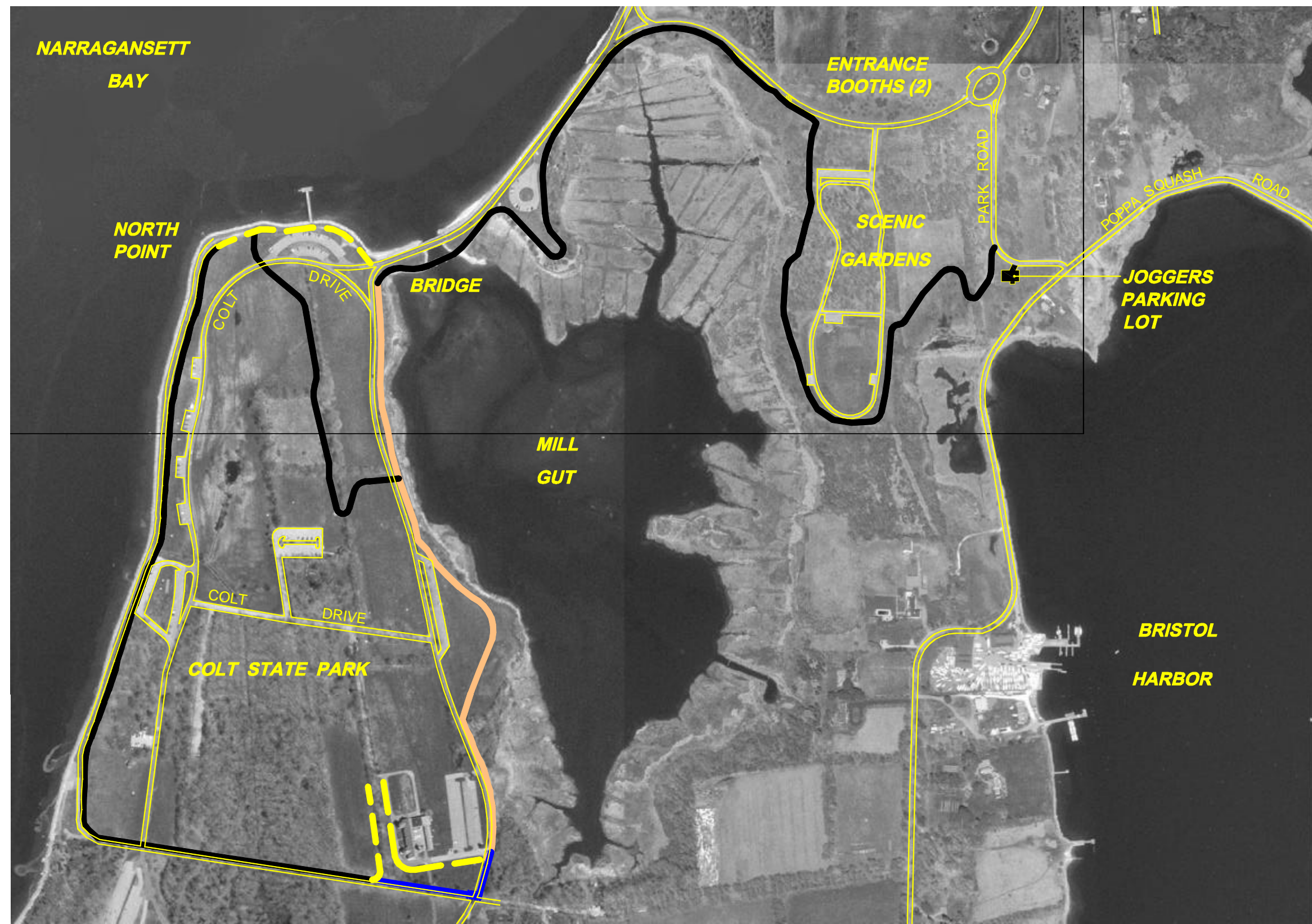


Photo 18. Colt State Park Bike Path Bridge

In addition to the recommended improvements to the Colt State Park Bike Path, the approximate 9,000 square foot jogger's parking lot located off Park Road needs to be resurfaced. A bike rack is also proposed at this location.

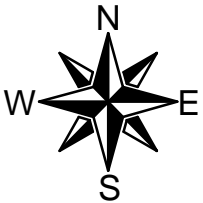
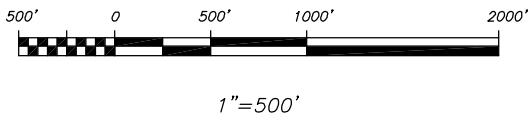
A capstone at the west approach to the stone arch bridge on the Colt State Park Bike Path is in need of repair. Should the project proceed to design, an analysis of load rating should be included in that future submission to evaluate the bridge's capacity to hold construction equipment. At that time any additional repairs that are deemed necessary will also be addressed (Photo 18).

The opinion of probable cost to complete the described Colt State Park Bike Path improvements, not including repairs to the bridge, is approximately \$204,000.00. A breakdown of the associated items and costs to carry out the proposed improvements is provided in the Appendix C at the end of this report. This preliminary opinion does not include the costs related with required environmental permitting efforts or bridge improvements to accomplish the construction and completion of this proposed bike facility.



LEGEND

- EXISTING COLT STATE PARK BIKE PATH
- UPGRADE EXISTING BIKE PATH
- RESURFACE EXISTING BIKE PATH AND JOGGERS PARKING LOT
- EXISTING ROADWAY
- COLT STATE PARK PROPOSED SPUR



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METROPOLITAN PROVIDENCE
BICYCLE FACILITIES
SITE ASSESSMENT PROJECT
EAST BAY BIKE PATH /
COLT STATE PARK SPUR
Bristol, Rhode Island
COLT STATE PARK IMPROVEMENTS

PERMITTING

Environmental:

It will become necessary to address wetland impacts for portions of the final bicycle facility and improvements in Colt State Park.

Colt State Park, located in Bristol, Rhode Island is within the Coastal Resource Management Council (CRMC) regulatory jurisdiction. CRMC Coastal Resources Management Program and the *“Rules and Regulations Governing the Protection and Management of Freshwater Wetland in the Vicinity of the Coast”* would apply to the approved recommendations as outlined in this report. The CRMC would coordinate with the Army Corps of Engineers Programmatic General Permit Program for required permits. Impacts to the regulated wetlands include Area Subject to Storm Flowage (drainage swale), area within 200-feet of a coastal feature, area within 200-feet of mean high water mark, tidal waters, and 100-year floodplain.

The accepted recommendations would include wetland impacts as a result of the following activities: the building of the proposed Colt State Park Bike Spur with the construction of Shared Use Paths, connecting to existing East Bay and Colt State Park Bike Paths, resurfacing and striping of the existing parking lot on Asylum Avenue, repairs to the existing Colt State Park Bike Path bridge, upgrading of the existing Colt State Park Bike Path, and the resurfacing of the joggers parking lot.

The preliminary opinion of probable costs included in this report do not include the costs that would be associated with required environmental permitting efforts.

National Historic Preservation Act Section 106 (36 CFR 800):

The purpose of the Section 106 process of the National Historic Preservation Act requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the Council a reasonable opportunity to comment on such undertakings. The Section 106 process seeks to accommodate historic preservation concerns with the needs of Federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties, commencing at the early stages of project planning. The goal



of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties.

This project is federally funded and is being conducted under contract with RIDOT. In accordance with Section 106 of the National Historic Preservation Act (36CFR 800), RIDOT will coordinate with the Rhode Island Historical Preservation and Heritage.



OPINION OF PROBABLE COST - APPENDIX A. ALL SEGMENTS														
	SEGMENT			1A	1B	1C	2A	2B	2C	3A	3B	3C	4A	4B
	SEGMENT LENGTH			1200 LF	1200 LF	1200 LF	850 LF	850 LF	700 LF	1700 LF	1700 LF	35 0 LF	850 LF	850 LF
ITEM		UNIT	UNIT											
CODE	ITEM	UNIT	PRICE											
201.0320	Clearing and Grubbing	ACRE	\$ 5,042.00	\$ 2,521.00	\$ -	\$ 2,521.00	\$ 3,781.00	\$ 757.00	\$ 1,261.00	\$ 3,025.00	\$ 3,781.00	\$ 757.00	\$ 1,513.00	\$ 1,513.00
202.0100	Earth Excavation	CY	\$ 7.00	\$ 3,900.00	\$ -	\$ 3,900.00	\$ 1,134.00	\$ 1,380.00	\$ 973.00	\$ 5,509.00	\$ 5,509.00	\$ -	\$ 2,755.00	\$ 2,755.00
204.0100	Trimming and Fine Grading	SY	\$ 1.50	\$ 2,800.00	\$ -	\$ 2,800.00	\$ 5,300.00	\$ 1,985.00	\$ 1,634.00	\$ 3,970.00	\$ 3,970.00	\$ -	\$ 2,000.00	\$ 2,000.00
302.0100	Gravel Borrow Subbase Course	CY	\$ 16.00	\$ 7,120.00	\$ -	\$ 7,120.00	\$ 2,080.00	\$ 2,520.00	\$ 1,776.00	\$ 10,080.00	\$ 10,080.00	\$ -	\$ 5,040.00	\$ 5,040.00
401.0101	1 1/2" Modified Bituminous Binder Course	TON	\$ 45.00	\$ 5,175.00	\$ -	\$ 5,175.00	\$ 1,530.00	\$ 1,845.00	\$ 1,305.00	\$ 7,335.00	\$ 7,335.00	\$ -	\$ 3,690.00	\$ 3,690.00
401.0200	1 1/2" Bituminous Surface Course-Type I-1	TON	\$ 45.00	\$ 24,615.00	\$ -	\$ 5,175.00	\$ 1,530.00	\$ 1,845.00	\$ 1,305.00	\$ 7,335.00	\$ 7,335.00	\$ -	\$ 3,690.00	\$ 3,690.00
403.0300	Asphalt Emulsion Tack Coat	SY	\$ 0.25	\$ 1,584.00	\$ -	\$ 334.00	\$ 97.00	\$ 118.00	\$ 83.00	\$ 472.00	\$ 472.00	\$ -	\$ 236.00	\$ 236.00
L01.0104	Plantable Soil 4" Deep	SY	\$ 2.05	\$ 2,187.00	\$ -	\$ 2,187.00	\$ 5,200.00	\$ 775.00	\$ 1,275.00	\$ 3,100.00	\$ 3,100.00	\$ -	\$ 1,550.00	\$ 1,550.00
T15.0100	Directional, Regulatory and Warning Signs	SF	\$ 30.00	\$ 285.00	\$ 465.00	\$ 240.00	\$ 225.00	\$ 225.00	\$ 225.00	\$ 255.00	\$ 255.00	\$ 255.00	\$ 255.00	\$ 255.00
T20.2004	4"Epoxy White Pavement Markings	LF	\$ 0.32	\$ 1,216.00	\$ -	\$ 768.00	\$ 224.00	\$ 272.00	\$ 192.00	\$ 1,088.00	\$ 1,088.00	\$ -	\$ 544.00	\$ 544.00
T20.2006	6"Epoxy White Pavement Markings	LF	\$ 0.24	\$ -	\$ 576.00	\$ -	\$ -	\$ 204.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
T20.2012	12"Epoxy White Pavement Markings	LF	\$ 1.44	\$ 363.00	\$ 674.00	\$ 363.00	\$ -	\$ 485.00	\$ 191.00	\$ 680.00	\$ 150.00	\$ 620.00	\$ -	\$ 242.00
	Timber Boardwalk & Footings	LF	\$ 186.00	\$ -	\$ -	\$ -	\$ 93,000.00	\$ -	\$ 74,400.00	\$ -	\$ -	\$ 65,100.00	\$ -	\$ -
	Footbridge	SF	\$ 27.00	\$ -	\$ -	\$ -	\$ -	\$ 6,750.00	\$ -	\$ -	\$ 13,500.00	\$ -	\$ -	\$ -
			Subtotal	\$ 51,766.00	\$ 1,715.00	\$ 30,583.00	\$ 114,101.00	\$ 19,161.00	\$ 84,620.00	\$ 42,849.00	\$ 56,575.00	\$ 66,732.00	\$ 21,273.00	\$ 21,515.00
			* 25% Contingency	\$ 12,941.50	\$ 428.75	\$ 7,645.75	\$ 28,525.25	\$ 4,790.25	\$ 21,155.00	\$ 10,712.25	\$ 14,143.75	\$ 16,683.00	\$ 5,318.25	\$ 5,378.75
			SUB TOTAL	\$ 64,707.50	\$ 2,143.75	\$ 38,228.75	\$ 142,626.25	\$ 23,951.25	\$ 105,775.00	\$ 53,561.25	\$ 70,718.75	\$ 83,415.00	\$ 26,591.25	\$ 26,893.75
			TOTAL	\$ 65,000.00	\$ 3,000.00	\$ 39,000.00	\$ 143,000.00	\$ 24,000.00	\$ 106,000.00	\$ 54,000.00	\$ 71,000.00	\$ 84,000.00	\$ 27,000.00	\$ 27,000.00

* Includes 10% estimated Misc. costs and 15% Engineering & Contingency costs

OPINION OF PROBABLE COST
APPENDIX B.
RECOMMENDED COLT STATE PARK SPUR

ITEM			UNIT	MEDIAN BIKE PATH
CODE	ITEM	UNIT	PRICE	4500 LF
201.0320	Clearing and Grubbing	ACRE	\$ 5,042.00	\$ 9,076.00
202.0100	Earth Excavation	CY	\$ 7.00	\$ 13,137.00
204.0100	Trimming and Fine Grading	SY	\$ 1.50	\$ 10,404.00
302.0100	Gravel Borrow Subbase Course	CY	\$ 16.00	\$ 24,016.00
401.0101	1 1/2" Modified Bituminous Binder Course	TON	\$ 45.00	\$ 17,505.00
401.0200	1 1/2" Bituminous Surface Course-Type I-1	TON	\$ 45.00	\$ 17,505.00
403.0300	Asphalt Emulsion Tack Coat	SY	\$ 0.25	\$ 1,125.00
L01.0104	Plantable Soil 4" Deep	SY	\$ 2.05	\$ 8,112.00
T15.0100	Directional, Regulatory and Warning Signs	EA	\$ 200.00	\$ 975.00
T20.2004	4" Epoxy White Pavement Markings	LF	\$ 0.32	\$ 2,592.00
T20.2012	12" Epoxy White Pavement Markings	LF	\$ 1.44	\$ 946.00
	Timber Boardwalk& Footings	LF	\$ 186.00	\$ 74,400.00
	Footbridge	SF	\$ 27.00	\$ 13,500.00
			Subtotal	\$ 193,293.00
			* 25% Contingency	\$ 48,323.25
			SUB TOTAL	\$ 241,616.25
			TOTAL	\$ 250,000.00

* Includes 10% estimated Misc. costs and 15% Engineering & Contingency costs.

OPINION OF PROBABLE COST

APPENDIX C.

COLT STATE PARK BIKE PATH RECOMMENDED IMPROVEMENTS

	SEGMENT	COLT STATE PARK IMPROVEMENTS		
	SEGMENT LENGTH			
ITEM			UNIT	
CODE	ITEM	UNIT	PRICE	
201.0320	Clearing and Grubbing	ACRE	\$ 1,700.00	\$ 5,041.00
201.0409	Remove and Dispose Flexible Pavement	SY	\$ 3.00	\$ 7,050.00
202.0100	Earth Excavation	CY	\$ 7.00	\$ 8,540.00
204.0100	Trimming and Fine Grading	SY	\$ 1.50	\$ 6,585.00
302.0100	Gravel Borrow Subbase Course	CY	\$ 16.00	\$ 15,600.00
401.0101	1 1/2" Modified Bituminous Binder Course	TON	\$ 45.00	\$ 11,340.00
401.0200	1 1/2" Bituminous Surface Course-Type I-1	TON	\$ 45.00	\$ 101,250.00
403.0300	Asphalt Emulsion Tack Coat	SY	\$ 0.25	\$ 731.00
L01.0104	Plantable Soil 4" Deep	SY	\$ 2.05	\$ 6,000.00
L15.9902	MultiLoop Bike Rack	EA	\$ 900.00	\$ 1.00
T20.9909	"STOP AHEAD" Epoxy Pavt. Marking Word	EA	\$ 200.00	\$ 600.00
			Subtotal	\$ 162,738.00
			* 25% Contingency	\$ 40,684.50
			SUB TOTAL	\$ 203,422.50
			TOTAL	\$ 204,000.00

* Includes 10% estimated Misc. costs and 15% Engineering & Contingency costs.

APPENDIX D PROJECT CORRESPONDENCE

T:\02175.00 Metropolitan Providence Bicycle Facilities\4 East Bay Bike Path-Colt State Park Spur\REPORTS\Design Report- Colt
Park\7-12-04 FS Part 1.doc





8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100 401-334-4108 FAX

Fax

TO: Steve Church
Rhode Island Department of Transportation

DATE: January 22, 2003

CC: (401) 222-2207

FROM: Virgil Gray, P.E.

PARE PROJECT NO: 02175.00

RE: Colt State Park Fact Sheet

NO. OF PAGES (Including Cover Sheet): 4

MESSAGE:

Steve,

Please find attached the fact sheet for Colt State Park. Please review and make comments.

Call with any questions.

Virgil

PLEASE CALL 401-334-4100 IF THERE IS A PROBLEM WITH THIS TRANSMITTAL.

THE INFORMATION CONTAINED IN THIS FACSIMILE MESSAGE IS PRIVILEGED AND CONFIDENTIAL, INTENDED ONLY FOR THE PERSON(S) NAMED ABOVE. ANY OTHER DISTRIBUTION, COPYING OR DISCLOSURE IS PROHIBITED. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE NOTIFY US IMMEDIATELY BY TELEPHONE AND RETURN THE ORIGINAL TRANSMISSION TO US BY U.S. POSTAL SERVICE MAIL. WE WILL REIMBURSE YOUR COST OF POSTAGE.

METROPOLITAN PROVIDENCE BICYCLE FACILITIES SITE ASSESSMENT PROJECT

COLT STATE PARK SPUR

Town of Bristol, Rhode Island

January 2003



Colt State Park Spur

Agenda

- Introduction
- Update of project status
- Review of project
- General Discussion

Colt State Park Spur

Background

- Department of Environmental Management (DEM), Division of Parks and Recreation submitted a project proposal form as part of the 2000-01 Transportation Improvement Program (TIP) for study and development phase for a proposed connector bicycle link from East Bay Path to Colt State Park Bike Path.
- The project application was approved by the Transportation Advisory Committee (TAC) and included in the TIP.
- The RI Department of Transportation (RIDOT) hired Pare Engineering Corporation for consultant services through the study & development phase for this and other Metropolitan Providence area bicycle path projects.

Purpose

- The purpose of this study & development phase is to fully scope, assess and develop with community input, all necessary site information, including cost estimates, in order to make informed decisions on the advancement of the project into the design phase.
- The study and development phase does not guarantee that a project will proceed into the next stage of development or be implemented; but it does assure that all the relevant information will be presented to the project sponsor, RIDOT and the TAC for further consideration.

Project Description

- The project includes the creation of an approximate one half mile connector link from the East Bay Bike Path to the Colt State Bike Path and improve and resurface approximately three miles of the Colt State Park Bike Path. This link would provide East Bay Bike Path bicyclists with separate travel lane access to Colt State Park's restrooms, drinking water, and telephones.

Tasks to be Performed

- Coordinate with the DEM on its project concept.
- Gather and analyze all relevant data, mapping, and existing conditions.
- Develop and evaluate route alternatives for the bike path, considering potential right-of-way and environmental impacts, and cost estimates
- In close coordination with the DEM, all the alternatives will be summarized and a route alternative(s) will be recommended.

Next Steps/Process

- After meeting with the DEM, collect all available data and plans to assist in developing the routes and potential alternatives.
- Continue to coordinate with the DEM as potential route alternatives are developed, screened and recommended.
- Present findings to TAC for consideration for funding into the TIP.



MEMORANDUM OF MEETING

DATE: February 20, 2003

TO: Steve Church, RIDOT

CC: Attendees
Steve Devine, RIDOT
Jim Hoyle, PARE
File

FROM: Virgil Gray, P.E.

RE: Metropolitan Providence Bicycle Facility Site Assessment
Project – Meeting with the Department of Environmental Management
PARE No. 02175.00 / Task 004

A kick-off meeting was held January 29, 2002 at the Rhode Island Department of Transportation at 10:00 AM. In attendance were: Larry Mouradjian, Steve Wright, Kevin O'Malley - DEM
Steve Church – RIDOT
Ken DeCosta, John Shevlin, Virgil Gray – PARE Engineering

The following items were discussed:

- Steve Church gave the project overview and outlined RIDOT and PARE's roles as the project moves forward.
- Larry Mouradjian requested a connection from the existing East Bay parking lot to the East Bay Bicycle Path instead of having people ride on Asylum Road.
- Larry Mouradjian requested a connection from Route 114 to the existing parking lot, as there is currently no direct access for pedestrians and bicyclists along Asylum Road. In addition, RIPTA busses now have bicycle racks on the front and can drop bicyclists at the entrance to the park.
- The DEM is open logistically to any engineering options that may be developed through this study.
- The DEM asked about resurfacing the existing 3 miles of path within the park. It was noted that the path was constructed in 1975. The concern is not with adding any width but maintaining the footprint with new pavement and possibly correcting any ADA deficiencies. Concerns were raised regarding the existing stone bridge and its capacity to handle paving equipment. PARE was asked to estimate the manhours it would take to perform a structural analysis of the bridge.

- The DEM requests that regulatory signage and striping be minimized throughout the project. They do not wish to see centerlines along the path.
- The DEM would like the study to address bicycle amenities by looking at adding bicycle racks at the restrooms and at the parking areas. It is noted that the DEM is currently working with the Governor's Council to retrofit the existing restrooms and walks within the park to comply with ADA.
- The DEM requests, if possible within this study, to review and make recommendations to reconfiguring the East Bay Bike Path parking lot. It is noted that re-striping and re-grading would be welcomed. It is further noted that the parking lot has multiple uses including a farmer's market location on Friday nights throughout the summer.
- It was noted that existing park plans would be available through RIDOT.
- The DEM stated that their Street Lighting project has been pushed out to 2005 and this study should coordinate with that project.
- There is no known accident history regarding bicyclists within the park.
- The route the study will follow includes following along Asylum Road, extending to the recreational fields, aligning through an opening within the stone wall by the gates, and connecting to the existing path by the restrooms. The Bristol Recreation Director will be contacted by RIDOT for their input regarding the connections to the recreation fields.
- PARE's next steps will be to begin data collection. RIDOT will schedule a field walk with the Town of Bristol, DEM, and PARE to get a better understanding of where each would like the proposed path.
- It was noted that the study has a 12-month time frame. The DEM stated that the timing works well with their construction work associated with the Governor's Council. RIDOT stated that the timing works well for a construction application within the next TIP.
- The DEM asked about funding opportunities for maintenance. It was noted that maintenance was not part of this project.
- The DEM requested that landscaping be included within the studies cost estimate.

VG/mjh



State of Rhode Island and Providence Plantations
Inter-Office Memorandum

To: Barbara Petrarca
Supervising Landscape Architect
Dept.: Transportation/Environmental & Intermodal Planning

From: Stephen A. Devine
Chief Program Development
Dept.: Transportation/Environmental & Intermodal Planning

Subject: Colt State Park Bike Spur Project
RIC No. 2002-EI(008)
Draft Design Study Report

Date: August 12, 2003

As a follow-up to our August 12, 2003 status meeting, attached for your review is a Draft Design Status Report for the proposed bike path spur within Colt State Park.

The spur will connect Hope Street to the East Bay Bike Path along Asylum Road. Please review this report regarding impacts to Hope Street, which is a Scenic Highway.

Should you have any questions, please contact me or Steven Church, Project Manager.

SAD/amt

Attachment

c: J. M. Bennett, w/o attachment
S. Church, w/o attachment



State of Rhode Island and Providence Plantations
Inter-Office Memorandum

AUG 19 2003

To: Stephen A. Devine
Chief, Program Development
Environmental & Intermodal Planning

From: Barbara A. Petrarca, ASLA *BA*
Supervising Landscape Architect
Environmental & Intermodal Planning

Re: Colt State Park Bike Spur Project
RIC No. 202-EI(008)
Draft Study Report (DSR)

Date: August 19, 2003

I have reviewed the above-referenced DSR and have no formal comments.

Once an alternative is chosen, please send me another copy of the plans and I will do a formal Scenic Roadways Board (SRB) review. The only jurisdiction of the SRB is at Hope Street, which is a Scenic Highway.

If you should have any comments, please contact me at ext. 4090.

BP/cc

cc: Bennett, Church, SRB File, File



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Rhode Island Department of Transportation
ENVIRONMENTAL & INTERMODAL PLANNING

Two Capitol Hill, Providence, RI 02903-1124
ENVIRONMENTAL PHONE (401) 222-2023
INTERMODAL PHONE (401) 222-4203
FAX (401) 222-2207 TDD (401) 222-4971

November 24, 2003

Mr. John Shevlin, P.E.
Vice President
Pare Engineering Corporation
8 Blackstone Valley Place
Lincoln, RI 02865

RE: Colt State Park Spur
Draft Design Study Report
RI Contract No.: 2002-E1-008

Dear Mr. Shevlin:

We have reviewed the draft report and would request that the following comments be addressed:

1. All pages Reference should be made to RIDOT's & URITC bike path user survey project in all final site assessment documents.
2. p.9 Alternative A; should this be the preferred alternative, consideration should be given to relocating the RIPTA bus stop on Rte. 114 (Hope St.) to the southwest corner of its intersection with Asylum Road. This would provide cyclists and other users to more direct access to the bike path alternative proposed for the south side of Asylum Road.
3. p.9 At the January 29, 2003 project kick-off meeting with staff representing DEM Division of Parks and Recreation, Larry Mouradjian requested a cost estimate of re-paving and re-striping the existing parking lot on Asylum Road. Please include this estimate of cost within the text of Segment 1, Alternative A.

Sincerely,

Stephen A. Devine
Chief, Program Development

C/ Messrs., Bennett, Church

January 23, 2004

Mr. Steve Devine, Chief Program Development
Rhode Island Department of Transportation
Intermodal Planning
Two Capitol Hill
Providence, RI 02903-1124

Attn: Mr. Steve Church

Re: **Metropolitan Providence Bicycle Facility Site Assessment Project**
East Bay Bike Path/Colt State Park Spur
Contract 2 Various Locations
RI Contract No.: 2002-E1-008
PARE No. 02175.00 / Task 004

Dear Mr. Devine:

We are pleased to provide to your office two (2) copies of the Draft Design Study Report for the above referenced project located in Bristol, RI. This report incorporates the comments that were made in a letter dated November 24, 2003 regarding the report's 90% submission. A Response to Comments has also been prepared and is attached with this submission.

The 90% submission comments that were made on the other four Metropolitan Providence Bicycle Facility Site Assessment Projects that relate specifically to this report have also been incorporated and the necessary revisions have been made.

Should you have any questions regarding this submission or if we can be of assistance in any way, please do not hesitate to contact me.

Very truly yours,

John P. Shevlin, P.E.
Vice President

JPS/DEJ/mjh

RESPONSES TO DRAFT DESIGN STUDY REPORT – ENVIROMENTAL & INTERMODAL
PLANNING COMMENTS DATED NOVEMBER 24, 2003

GENERAL COMMENTS

1. **COMMENT:** All pages Reference should be made to RIDOT's & URITC bike path user survey project in all final site assessment documents.

RESPONSE: Reference to the RIDOT & URITC bike path user survey project has been made in the Overview/Introduction section of all the site assessment documents.

2. **COMMENT:** p.9 Alternative A; should this be the preferred alternative, consideration should be given to relocating the RIPTA bus stop on Rte. 114 (Hope St.) to the southwest corner of its intersection with Asylum Road. This would provide cyclists and other users to more direct access to the bike path alternative proposed for the south side of Asylum Road.

RESPONSE: Consideration to relocate the RIPTA bus stop to the southwest corner of the intersection was mentioned in the Description section of Segment 1 and in the Recommendation section of the report.

3. **COMMENT:** p.9 At the January 29, 2003 project kick-off meeting with staff representing DEM Division of Parks and Recreation, Larry Mouradjian requested a cost estimate of re-paving and re-striping the existing parking lot on Asylum Road. Please include this estimate of cost within the text of Segment 1, Alternative A.

RESPONSE: An estimate to re-pave and re-stripe the existing parking lot has been included in the texts and Opinion of Probable Costs for Segment 1, Alternative A and the Recommended Colt State Park Spur.

DJ/mjh



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Rhode Island Department of Transportation
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January 28, 2004

Mr. Larry Mouradjian
Chief, Division of Parks & Recreation
RI Department of Environmental Management
2321 Hartford Ave.
Johnston, RI 02919

Re: Colt State Park Bike Path Spur
Draft Feasibility Study
RI Contract No. 2002-EI (008)

Dear Mr. Mouradjian: *Larry:*

Enclosed is a draft feasibility report outlining potential alternatives for the Colt State Park Bike Path spur as proposed in the Department of Environmental Management's (RIDEM) application submitted to the FY 2001-2002 state Transportation Improvement Program (TIP). Also, included in this draft report are opinion of probable cost estimates for the re-surfacing of the Asylum Road and Park Road parking areas, and the 2-¼ mile bike path loop within the Park.

We would request your review and comments on this draft report be submitted to this office by March 5, 2004. Please note, since this project was included under the Study and Development phase of the TIP, should DEM wish to proceed to design and construction, a request for funding and project inclusion in the next TIP will be necessary.

We look forward to working with you on this bikeway project for Colt State Park.

Sincerely,

Stephen A. Devine
Chief, Program Development

Enclosure

C/ J.M. Bennett, S. Church, w/out enclosure



MEMORANDUM OF MEETING

DATE: May 26, 2004

TO: Steve Devine, RIDOT

CC: Steve Church, RIDOT

FROM: Diane Johnson, P.E.

RE: Metropolitan Providence Bicycle Facility Site Assessment
Project - Meeting with RIDOT, DEM, PARE
PARE No. 02175.00

A meeting was held at 9:00 AM on May 12, 2004 at Colt State Park.
In attendance were:

Larry Mouradjian, Steve Wright, Kevin O'Malley-RIDEM
Steve Devine, Steve Church-RIDOT
Virgil Gray, Diane Johnson-PARE Engineering

The purpose of this meeting was to discuss the suggested alternatives that were made in the January 23, 2004 Draft Submission report and determine which alternatives were best suited for the proposed Colt State Park path. The following items were addressed:

- It was agreed that after joining the East Bay Bike Path, the proposed path would be best built as a 10-foot wide Shared Use Path. ASHTO criteria states that the *“recommended paved width for a two-directional shared use path is 10 feet. In rare instances, a reduced width of 8 feet can be adequate.”* The path would run along the north side of Asylum Road, approximately 4 feet behind the existing edge of pavement. The path would continue on to the Bristol Town Beach/Sports Complex and Colt State Park junction. There are concrete slabs, an electric box, a sign, two poles, and trees in the area before the complex and park junction that will require removal and relocation to permit the continuation of the path's construction. After crossing the Sports Complex road, the path would be constructed along the western side of Asylum Road. Approaching the rotary, the proposed path in this open space area would be aligned such that relocation of manholes, lights, electric boxes, and parking lots would be avoided and the removal of trees, shrubs, and the disturbance of landscaping minimized. The path would continue through the opening in the stonewall and gate, adjacent to the entrance booths, and run along the north side of the roadway crossing the entrance road at the existing “Path To Health” crosswalk, completing the connection to the Colt State Park Bike Path.

- It was noted that the relocation of the electric box and the removal and replacement of light poles in this area would be coordinated with the Asylum Road Lighting project that PARE is in the process of designing.
- PARE was requested to examine more closely the feasibility of constructing the 10-foot Shared Use Path in the grassed median, between the existing rows of trees, from Hope Street to the entrance to the National Reserves Center along Asylum Road. This effort is an attempt to minimize the number of road crossings, avoid encroaching on the adjacent Town and Federal properties, keeping away from the ornamental gardens that are located close to the entrance of the park, and stay clear of the wetland area on the south side of Asylum Road before the East Bay Bike Path. RIDOT and DEM asked that an estimate be prepared that evaluates the installation of a raised boardwalk utilized as a Shared Use Path in the median from the area of the National Reserves Center to the East Bay Bike Path.
- Steve Church is going to contact the Town of Bristol for an Engineering / Public Works / Recreation review regarding the proposed path's design and the Town owned right-of-way impacts. Walter Burke was previously involved with the proposal to build a path that extended into the Town Beach and skater's park and parking lot area. It was eliminated from the report because of lack of support from the Town.
- RIPTA has a bus stop on the northwest corner of the intersection of Hope Street (Route 114) and Asylum Road. At the intersection there are crosswalks and ramped sidewalks across Asylum Road. There are no crosswalks across Hope Street. It was suggested that consideration should be given to a crosswalk across Hope Street to provide bicyclists with a crossing and access to the park and bike path.
- Steve Church asked for confirmation that the report does include the cost to re-stripe and re-pave the existing East Bay Bike Path parking lot that is located on Asylum Road. PARE confirms that the opinion of probable cost for the recommended Shared Use Path does include this item.

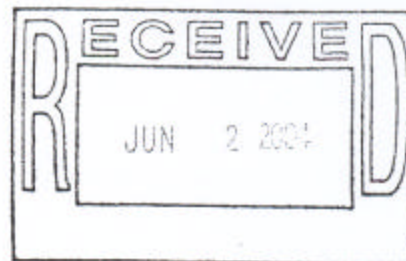
In conclusion, referring to the Draft Design Report dated January 23, 2004, the recommended Shared Use Path as discussed on May 12, 2004 becomes a combination of Alternatives 1C, 2C, 3B, and 4B. The opinion of probable cost for the recommended Shared Use Path is approximately \$250,000.00 that includes the cost of re-striping and re-paving the existing East Bay Bike Path parking lot on Asylum Road. A breakdown of the associated items and costs to build the proposed bike facility is provided as part of this memorandum. This preliminary opinion of probable cost does not include the costs related with the design and the required environmental permitting efforts to accomplish the construction and completion of this proposed bike facility.

				MEDIAN BIKE PATH
ITEM CODE	ITEM	UNIT	UNIT PRICE	4500 LF
201.0320	Clearing and Grubbing	ACRE	\$ 5,042.00	\$ 9,076.00
202.0100	Earth Excavation	CY	\$ 7.00	\$ 13,137.00
204.0100	Trimming and Fine Grading	SY	\$ 1.50	\$ 10,404.00
302.0100	Gravel Borrow Subbase Course	CY	\$ 16.00	\$ 24,016.00
401.0101	1 1/2" Modified Bituminous Binder Course	TON	\$ 45.00	\$ 17,505.00
401.0200	1 1/2" Bituminous Surface Course-Type I-1	TON	\$ 45.00	\$ 17,505.00
403.0300	Asphalt Emulsion Tack Coat	SY	\$ 0.25	\$ 1,125.00
L01.0104	Plantable Soil 4" Deep	SY	\$ 2.05	\$ 8,112.00
T15.0100	Directional, Regulatory and Warning Signs	SF	\$ 30.00	\$ 975.00
T20.2004	4"Epoxy White Pavement Markings	LF	\$ 0.32	\$ 2,592.00
T20.2006	6"Epoxy White Pavement Markings	LF	\$ 0.24	\$ -
T20.2012	12"Epoxy White Pavement Markings	LF	\$ 1.44	\$ 946.00
	Timber Boardwalk & Footings	LF	\$ 186.00	\$ 74,400.00
	Footbridge	SF	\$ 27.00	\$ 13,500.00
			Subtotal	\$ 193,293.00
			25% Contingency	\$ 48,323.25
			SUB TOTAL	\$ 241,616.25
			TOTAL	\$ 250,000.00



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management
DIVISION OF PARKS AND RECREATION
2321 Hartford Avenue
Johnston, RI 02919 - 1713
(401) 277-2632



May 28, 2004

Mr. Stephen A. Devine, Chief
Program Development
Rhode Island Department of Transportation
Environmental & Intermodal Planning
Two Capitol Hill
Providence, R.I. 02903-1124

RE: Colt State Park Bike Path Spur
Draft Feasibility Study
RI Contract No 2002-EI (008)

Steve
Dear ~~Mr.~~ Devine,

The RIDEM Division of Parks and Recreation has reviewed and discussed the various options identified within the study. After our May 12, 2004 field review of those recommendations we wish to identify our preference for the following;

Segment 1 – Alternative “C” which identifies a route within the tree lined median.

Segment 2 – Alternative “C” which also identifies a route within the median.

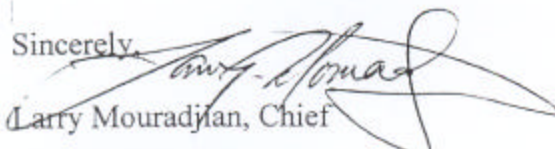
Segment 3 – Alternative “B” which identifies the road shoulder on the inbound Assylum Roadway, but we prefer it limited to the area beginning at the East Bay Bikeway crosswalk then extending to the town beach road crossing as identified and continuing to segment 4.

Segment 4 – Alternative “B” keeping to an off road path which takes advantage of existing plantings and the old pathway between historic stone walls.

I understand that given our recommendations, Pare Engineering will prepare revised cost estimates for our consideration in preparing a request for full design, construction and project inclusion in the next TIP cycle.

As always, we are very appreciative of the opportunity to work with the Department of Transportations programs and highly value your assistance with these projects of great public benefit. If I may be of any further assistance or information please do not hesitate to contact me.

Sincerely,


Larry Mouradian, Chief

CC: Steve Wright



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Rhode Island Department of Transportation
ENVIRONMENTAL & INTERMODAL PLANNING

Two Capitol Hill, Providence, RI 02903-1124
ENVIRONMENTAL PHONE (401) 222-2023
INTERMODAL PHONE (401) 222-4203
FAX (401) 222-2207 TDD (401) 222-4971

June 3, 2004

Mr. Larry Mouradjian
Chief, Division of Parks & Recreation
2321 Hartford Ave
Johnston, RI 02919-1719

Re: Colt State Park
East Bay Bike Path Intermodal Connector
RI Contract No: 2002-EI-008
RI FAP No: HPP 1827 (003)

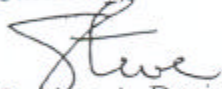
Dear Mr. Mouradjian:

In response to your May 28, 2004 correspondence, we are providing you with meeting minutes of our May 12th field review of the proposed alignment for the proposed Colt State Park bike path spur within the grass "median" along Asylum Road. The attached minutes provide an estimate of the construction costs for this alternative and the re-surfacing of the parking lot on Asylum Road. Please note that this preliminary opinion of probable costs does not include costs related to design and the required environmental permitting efforts.

In order that we may finalize the report, we will instruct Pare Engineering to include your comments as well as a brief discussion relative to potential historic preservation issues of the "median" route alternative. We will transmit the final report to you upon our receipt from Pare.

As noted in your letter, for this project to advance to design and construction, inclusion in the next TIP cycle will be necessary. We look forward to continue working with your Division will the goal of improving and expanding our statewide bicycle network.

Sincerely,



Stephen A. Devine

Chief, Program Development

Attachment

C/ J.M. Bennett, S. Church, w/out attachment



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Rhode Island Department of Transportation
ENVIRONMENTAL & INTERMODAL PLANNING
Two Capitol Hill, Providence, RI 02903-1124
ENVIRONMENTAL PHONE (401) 222-2023
INTERMODAL PHONE (401) 222-4203
FAX (401) 222-2207 TDD (401) 222-4971

RECEIVED PARE	
DATE:	6-21-04
JOB NO:	02175.10
COPIES TO	
Civil	___
Marketing	___
Environmental & Planning	___
Transportation	<input checked="" type="checkbox"/>
VG	<input checked="" type="checkbox"/>
DJ	<input checked="" type="checkbox"/>
BBL	<input checked="" type="checkbox"/>
JOB FILE:	<input checked="" type="checkbox"/> INC. <input checked="" type="checkbox"/>

June 16, 2004

Mr. John P. Shevlin, P.E.
Vice President
Pare Engineering Corporation
8 Blackstone Valley Place
Lincoln, RI 02865

Re: Colt State Park Bike Path spur
Draft Feasibility Study
RI Contract No: 2002-E1 (008)

Dear Mr. Shevlin:

Enclosed are comments provided by DEM relative to the proposed bike path spur along Asylum Road in Colt Park.

At this time, we would request that you proceed to complete the study and development phase of this project and include these comments as part of the Appendix. Also, please include a separate discussion of potential Section 106 issues of the proposed grass "median" alignment.

Please submit a total of six (6) copies of the Final Report to this office and we will forward the document to DEM.

Sincerely,

Stephen A. Devine
Chief, Program Development
Environmental & Intermodal Planning

Enclosure

C/ J.M. Bennett, S. Church, w/out enclosre

July 12, 2004

Mr. Steve Devine, Chief Program Development
Rhode Island Department of Transportation
Intermodal Planning
Two Capitol Hill
Providence, RI 02903-1124

Attn: Mr. Steve Church

Re: **Metropolitan Providence Bicycle Facility Site Assessment Project**
East Bay Bike Path/Colt State Park Spur
Contract 2 Various Locations
RI Contract No.: 2002-E1-008
PARE No. 02175.00 / Task 004

Dear Mr. Devine:

We are pleased to provide to your office six (6) copies of the Final Design Study Report for the above referenced project located in Bristol, RI. This report incorporates comments that were received regarding the report's January 23, 2004 submission from the following agencies:

- A letter received by the Rhode Island Department of Transportation, Environmental & Intermodal Planning Division dated June 16, 2004.
- A letter received by the Department of Environmental Management, Division of Parks and Recreation, dated May 28, 2004.

Should you have any questions regarding this submission or if we can be of assistance in any way, please do not hesitate to contact me.

Very truly yours,

John P. Shevlin, P.E.
Vice President

JPS/VG/DEJ/mjh